AN ATLAS OF CONTAMINANTS IN EGGS OF FISH-EATING COLONIAL BIRDS OF THE GREAT LAKES (1970-1988)

VOLUME II
ACCOUNTS BY CHEMICAL

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Technical Report Series No. 153

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RÉSUMÉ

Les Grands Lacs canadiens et américains ont été un lieu important de recherches et d'études sur la pollution et ses effets. Il existe aujourd'hui une somme énorme de données sur les niveaux de pollution dans les eaux, les sédiments et de nombreux niveaux trophiques des Grands Lacs. Toutefois, les scientifiques et le public éprouvent souvent de la difficulté à obtenir un résumé complet des données concernant la contamination à un ou plusieurs niveaux trophiques. Dans cet atlas, sont résumés les concentrations moyennes de trente-neuf contaminants ainsi que les pourcentages de lipides mesurés par le Service canadien de la faune, de 1970 à 1988, dans les oeufs de sept espèces d'oiseaux coloniaux piscivores de toutes les parties des Grands Lacs. L'atlas, qui contient 4 491 données, ne recense pas les données qui ont été recueillies par d'autres organismes.

Au début des années 70, une diminution des populations de plusieurs espèces d'oiseaux nicheurs piscivores a été constatée dans une grande partie des Grands Lacs (Gilbertson, 1975; Vermeer et Peakall, 1977 a et b; Postupalsky, 1978; Price et Weseloh, 1986; Weseloh et al., 1986). Dans le cas des espèces comme le Cormoran à aigrettes (Phalacrocorax auritus) dont les effectifs étaient relativement faibles par rapport aux goélands, la diminution était très évidente. Devant la baisse de productivité ou des effectifs de ces oiseaux, le Service canadien de la faune entreprit une étude sur les concentrations de contaminants dans les populations d'oiseaux piscivores des Grands Lacs et sur leurs effets biologiques possibles. Ces oiseaux, particulièrement les populations du lac Ontario, étaient parmi les plus fortement contaminés au Canada et au monde par diverses substances chimiques (Vermeer et Peakall, 1977).

Durant la deuxième moitié des années 70, suite à l'adoption de mesures restreignant l'utilisation et l'élimination de nombreux produits chimiques toxiques, les concentrations des contaminants ont commencé à baisser dans les oeufs d'oiseaux piscivores (Gilman et al., 1977; Weseloh et al., 1979). La plupart des populations de ces oiseaux ont conséquemment montré des signes de rétablissement (Price et Weseloh, 1986; Cadman et al., 1987).

Cet atlas réunit les données sur les concentrations de contaminants qui ont été mesurées dans les oeufs des oiseaux piscivores de 1970 à 1988. Il permet de localiser les données se rapportant à des lieux précis d'échantillonnage ou à des contaminants particuliers en procédant par étapes. Il est destiné à fournir rapidement et facilement réponse à diverses questions concernant, par exemple, les endroits où des oeufs ont été prélevés pour analyse, les données disponibles sur les concentrations de contaminants particuliers dans les oeufs d'oiseaux aquatiques coloniaux, les tendances spatiales et

géographiques des concentrations des contaminants dans ces oeufs et l'alimentation de ces oiseaux dans la région des Grands Lacs.

Dans le volume I, l'information sur les concentrations des contaminants est résumée de trois façons différentes. Premièrement, l'information est présentée selon le lieu d'échantillonnage. Deuxièmement, les tendances des concentrations de quatre contaminants importants (p,p'-DDE, dieldrine, biphényles polychlorés et 2,3,7,8-tétrachlorodibenzo-p-dioxine) dans les oeufs du Goéland argenté sont présentées sous une forme graphique. Troisièmement, les tendances des populations de chaque espèce ainsi que les tendances géographiques et temporelles des concentrations des contaminants dans les oeufs de chacune sont montrées. Afin de faciliter l'interprétation des données sur les contaminants, on a également inclus dans ce volume un résumé des aliments qu'utilisent les oiseaux de chaque espèce dans la région des Grands Lacs.

Dans le volume II, les données sont résumées uniquement suivant le type de contaminant mesuré dans les oeufs.

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INTRODUCTION

The Great Lakes of Canada and the United States have been a major arena for research and monitoring studies of pollution levels and effects. Today, there is an enormous database on the pollution levels in water, sediment and many trophic levels of the Great Lakes. However, it is often difficult for scientists and the public to easily locate a comprehensive summary of data concerning contamination in any or all of these trophic levels. This atlas provides a summary of the mean concentrations of thirty-nine contaminants and the percent lipid measured in eggs of seven species of fish-eating colonial birds sampled only by the Canadian Wildlife Service throughout the Great Lakes during 1970-1988. There are 4491 data points presented in the atlas; however, this does not include any contaminant data concerning biota in the Great Lakes collected by other organizations and agencies.

Throughout much of the Great Lakes, the population levels of several species of breeding fish-eating birds declined during the early 1970s (Gilbertson, 1975; Vermeer and Peakall, 1977a,b; Postupalsky, 1978; Price and Weseloh, 1986; Weseloh et al., 1986). For species such as, the Double-crested Cormorant (Phalacrocorax auritus), whose numbers were low relative to gulls, population declines were extremely conspicuous. In response to lowered productivity and/or declining population levels, the Canadian Wildlife Service began a study of the contaminant levels in Great Lakes populations of fish-eating birds, and their possible biological effects. These species were among the most heavily contaminated by various toxic chemicals in Canada and the world, especially populations located in Lake Ontario (Vermeer and Peakall, 1977).

With the advent of legislative controls and restrictions on the use and disposal of many toxic chemicals, chemical concentrations found in eggs of fish-eating birds began to decline after the mid-1970s (Gilman et al.,1977; Weseloh et al., 1979). Accordingly, most of the fish-eating bird populations have shown signs of recovery (Price and Weseloh, 1986; Cadman et. al., 1987).

We present the levels of contaminants found in eggs of fish-eating birds throughout 1970-1988. Data from specific sampling locations or specific contaminants can be retrieved in a stepwise manner from this atlas. The purpose of the atlas is to provide a quick and easy answer to questions such as where have eggs been collected for analysis; how much data is available on levels of specific contaminants in eggs of colonial waterbirds; what are the spatial and geographic trends in contaminant levels in these bird eggs; and finally, what is the diet of colonial waterbirds in the Great Lakes?

In Volume I, information on contaminant levels is summarized in three different forms. Firstly, it is presented on the basis of sample locations. Secondly, trends in levels of four major contaminants: p,p'-DDE, dieldrin, polychlorinated biphenyls and 2,3,7,8-tetrachlorodibenzo-p-dioxin in Herring Gull eggs are presented in graphic form. Thirdly, population trends of each species, and geographic, and temporal trends in contaminant levels in the eggs of each species are given. Also in Volume I, a summary of the diets of each species in the Great Lakes is provided as an aid for interpretation of the contaminant data.

In Volume II, data is summarized only on the basis of the types of contaminants measured in eggs.

INSTRUCTIONS FOR USERS OF THIS ATLAS

The information contained in this Atlas (Volume I and II) is presented in four forms:

1. Mean concentrations of contaminants, summarized by location (Volume I, Section 1).
2. Mean concentrations of contaminants, summarized by compound (Volume II, Section 1).
3. Trends in four contaminants in Herring Gull eggs from Great Lakes annual monitor colonies (Volume I, Section 2).
4. Discussion of population trends, and temporal and geographic variation in contaminant levels for seven species on the Great Lakes (Volume I, Section 3).

Also, the results of diet studies, primarily on the Great Lakes, for each species for which eggs have been collected for contaminant analysis are summarized (Volume I, Section 4).

This atlas has been designed to be used in a stepwise manner. The quickest method of finding the data available for a specific location or a specific chemical is described below.

1) This first step is designed to alert the user to the scope of the database in the document. Tables 1-10 are summaries of species sampled, compounds analyzed and number of eggs analyzed in each sample year (1970-1988) from colonies on the Great Lakes. The accompanying maps, Figures 1-10, illustrate the locations of Great Lakes colonies of fish-eating birds from which eggs were collected for contaminant analysis. The colony names are numbered on the maps and these correspond with the numbers on the accompanying tables. These tables are present in both Volume I and Volume II.

For example, if you are interested in types of contaminants and the levels found in the eggs of fish-eating birds in the Kingston area, you would refer to Figure 2 (p.12) which illustrates the colonies sampled in Eastern Lake Ontario. The colonies: Snake Island, West Brothers Island, Pigeon Island, and Little Galloo Island are located near Kingston. You would then refer to Table 2 which lists the species' whose eggs were sampled at each of these colonies, the years of sampling and the contaminants measured in the eggs. This simply and quickly informs you how much data is available for species in every area of the Great Lakes.

2) The second step, is to locate the mean, standard deviation and sample size for each contaminant measurement in the eggs of every species that has been sampled in the location of interest. Volume I, Section 1 and Volume II, Section 1, contain summaries of the same data but present the data in two different ways. In Section 1, (Table 11), **Volume** I, the contaminant data is presented by sampling location and in Section 1 (Table 11) **Volume** II, the contaminant data is presented by types of chemicals measured in the eggs.

For example, if you are interested in data concerning species on Snake Island, refere to the data summary by sample location (Table 11, Volume I). If you are interested in data throughout the Great Lakes or in only a few colonies near Kingston concerning the chemical Dieldrin, then reference to the data summary by chemical analyzed in eggs (Table 11, Volume II), would be most suitable.

Data summary by Location Sampled (**Volume I, Section 1**).

An index lists the lakes and colonies sampled throughout the Great Lakes (p.1-2). It lists the page numbers in Table 11 on which all contaminant data can be found concerning each species at each colony.

Following the index, Table 11 presents contaminant data for eggs of fish-eating birds summarized by lakes, colonies and years sampled.

Data summary by Chemical Analyzed in Eggs (**Volume II, Section 1**).

An index lists the page numbers in Table 11 on which the data for each contaminant can be found for the colonies sampled in each lake.

Following the index, Table 11 presents contaminant data for eggs of fish-eating birds summarized by the chemical measured in the eggs for all lakes, colonies, species and years sampled.

For example, if you are interested in data concerning species on Snake Island he would refer to the data summary by location sampled (Table 11, Volume I). If you were interested in data throughout the Great Lakes or in only a few colonies for the chemical Dieldrin then reference to the data summary by chemical analyzed in eggs (Table 11, Volume II), would be most suitable.

It is important that the summary of methodologies and statistical notes pertaining to the contaminant data (p.34) is examined by all readers to facilitate proper interpretation of the data.

The locations, chemicals analyzed, and species are listed in the following order in all indices and tables:

1. The Lakes and colony locations are listed, generally, in east to west order.

2. The contaminants measured are listed, generally, in alphabetical order. A list of the order of the contaminants measured and the abbrevations used on the tables is supplied (p.12).

3. The species sampled are listed in the following order:

Herring Gull (Larus argentatus)
Double-crested Cormorant (Phalacrocorax auritus)
Caspian Tern (Sterna caspia)
Common Tern (Sterna hirundo)
Black-crowned Night Heron (Nycticorax nycticorax)
Ring-billed Gull (Larus delawarensis)
Forster's Tern (Sterna forsteri)

This list is arranged in sequential order which reflects the species for which we have the most (Herring Gull) to least data. Section 2 (Volume I). Additional graphic presentations of data are available in the Atlas in the form of:

Trends in contaminants (p,p'-dde, dieldrin, polychlorinated biphenyl 1254:1260, 2,3,7,8-tetrachlorodibenzo-p-dioxin) in Herring Gull eggs (Figures 11-24, Volume I). Histograms illustrate trends in these four contaminants in Herring Gull eggs from 1971 to 1988 for at least two colonies per lake.

Species Accounts (**Section 3, Volume I**).

These accounts discuss the population trends for each species, and the general spatial and temporal trends in major contaminant levels in the eggs of each species sampled during 1970-1988 (Tables 12-18, Volume I).

Diets of Selected Fish-eating Birds (**Section 4, Volume I**).

The results of diet studies, primarily on the Great Lakes, for each species for which eggs have been collected for contaminant analysis are summarized in tabular form (Table 19).

COMPOUNDS ANALYZED IN EGGS OF FISH-EATING BIRDS OF THE GREAT LAKES

The following compounds are listed in alphabetical order except for "percent lipid in egg". The underlined sections of the chemical names are the words which were used to place the chemical in its alphabetical position in the list. Chemical congeners are listed in order of increasing chlorination. The order of names in this list is consistently used throughout the tables in this document. Abbreviations correspond to those on Table 1 through Table 10.

CAS #	COMPOUNDS	ABBREVATION
	Percent lipid in egg	% Lip
7440-38-2	Arsenic	As
7440-43-9	Cadmium	Cd
5103-71-9	alpha(cis)-chlordane	a-chl
5103-74-2	gamma(trans)- chlordane	g-chl
7304-13-8	oxy-chlordane	o-chl
87-61-6	1,2,3-chlorobenzene	123-CB
120-82-1	1,2,4-chlorobenzene	124 CB
180-70-3	1,3,5-chlorobenzene	135-CB
634-66-2	1,2,3,4-chlorobenzene	1234-CB
	1,2,3,5-/1,2,4,5-chlorobenzene	1235/1245CB
608-93-5	penta-chlorobenzene	PeCB
118-74-1	hexachlorobenzene	HCB
72-54-8	DDD	DDD
72-55-9	DDE	DDE
50-29-3	DDT	DDT
60-57-1	Dieldrin	Diel
1746-01-6	2,3,7,8-tetrachlorodibenzo-p-dioxin	Dioxin
40321-76-4	1,2,3,7,8-pentachlorodibenzo-p-dioxin	Dioxin
39227-28-6	1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	Dioxin
35822-46-9	1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	Dioxin
3268-87-7	octachlorodibenzo-p-dioxin	Dioxin
51207-31-9	2,3,7,8-tetrachlorodibenzofuran	Furan
57117-31-4	2,3,4,7,8-pentachlorodibenzofuran	Furan
	1,2,3,4,7,8-/1,2,3,4,6,7-hexachlorodibenzofuran	Furan
55684-94-1	1,2,3,6,7,8-hexachlorodibenzofuran	Furan
1024-57-3	Heptachlor epoxide	Hep Epx
39-84-6	alpha-hexachlorocyclohexane	a-hch
39-85-7	beta-hexachlorocyclohexane	b-hch
58-89-8	gamma-hexachlorocyclohexane	g-hch
7439-92-1	Lead	Pb
7439-97-6	Total mercury	Hg
2385-85-5	Mirex	Mir
39801-14-4	photomirex	P Mir
5103-73-1	cis-nonachlor	c-non
39765-80-5	trans-nonachlor	t-non
	Octachlorostyrene	OCS
11097-69-1	PCB-1260	PCB 1260
11096-82-5	PCB-1254:1260	PCB 1254:1260
7782-49-2	Selenium	Se

LIST OF ABBREVIATIONS SPECIFIC TO Tables 1-10

Col no.	colony number
Spec.	species
yr	year of egg collection
HERG	Herring Gull
DCCO	Double-crested Cormorant
CATE	Caspian Tern
COTE	Common Tern
BCNH	Black-crowned Night-Heron
RBGU	Ring-billed Gull
FOTE	Forster's Tern

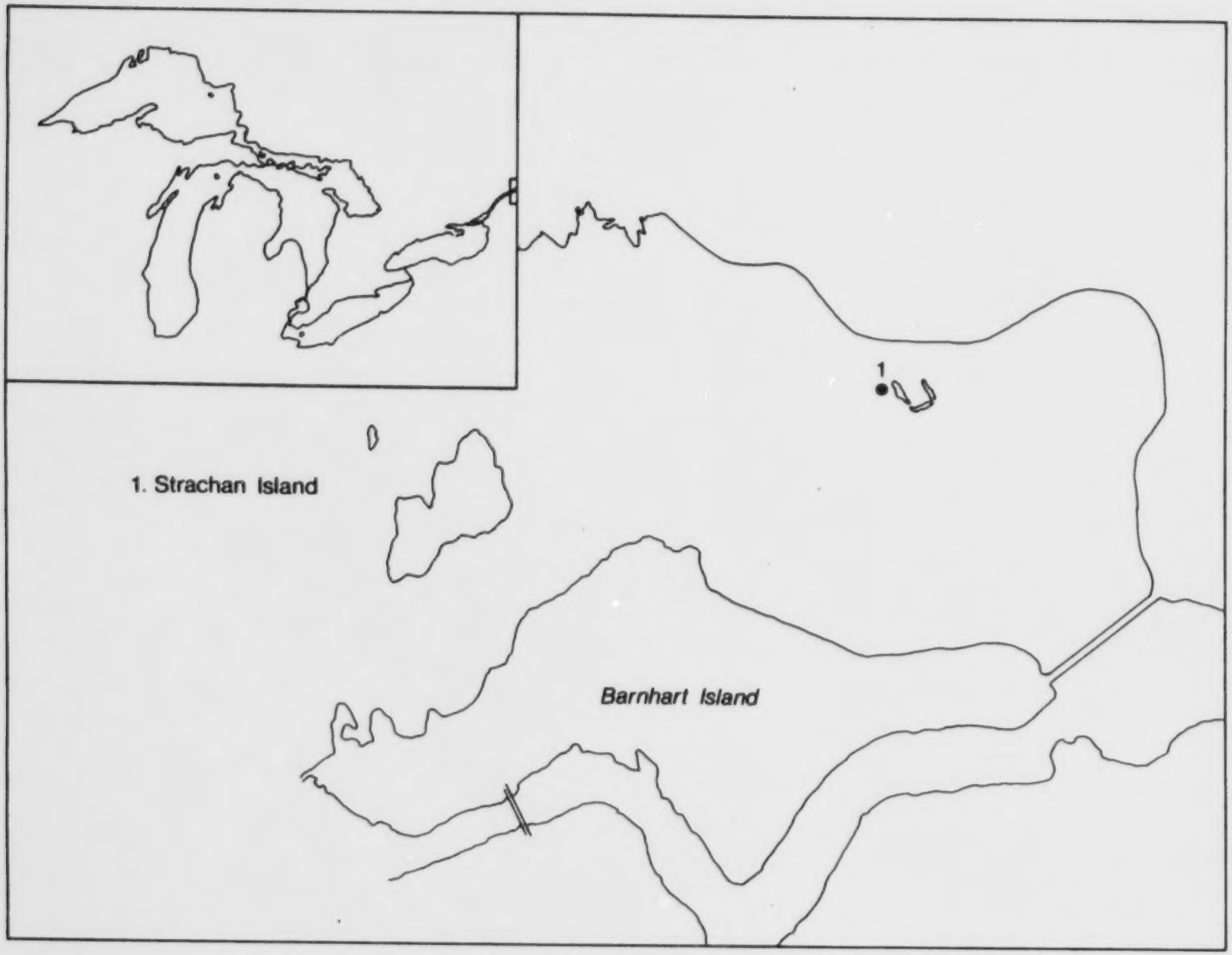

Figure 1. St. Lawrence River colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 1. The sample size of eggs analyzed in each year (1970–1988) from the St.Lawrence River, arranged by collection site, species sampled, and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	124 CB	123 CB	135 CB	1234 CB	1236/ 1245 CB	PeCB	HCB	DDD	DDE	DDT	DIEL	DIOXIN	FURAN	HEP EPX	a-hch	b-hch	g-hch	Pt	Hg	MIR	P-MIR	o-non	b-non	OCS	PCB 1260	PCB 1254: 1260	Se
1	HERG	86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	1	0
		88	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	1	1	1	0

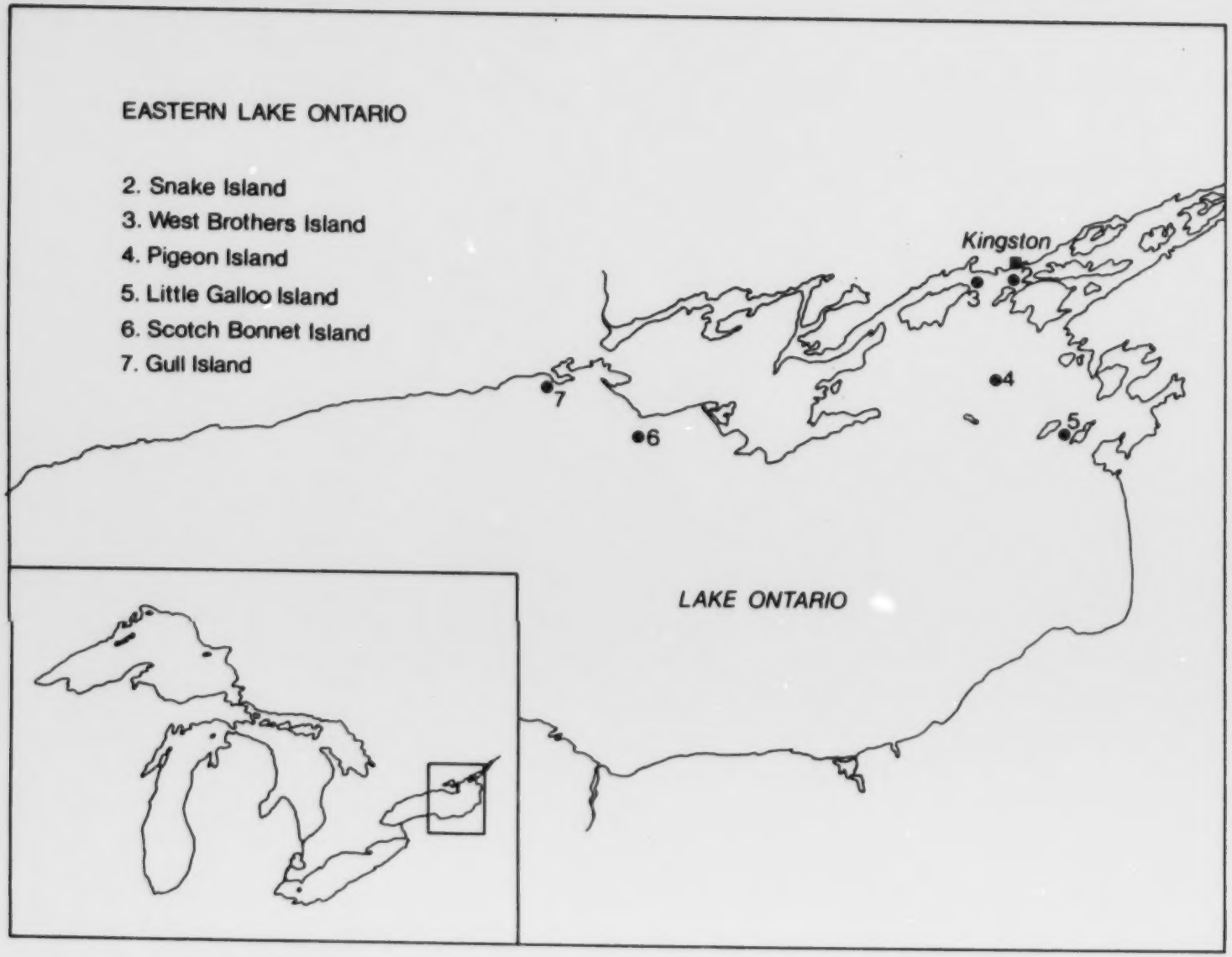

Figure 2. Eastern Lake Ontario colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 2. The sample size of eggs analyzed in each year (1970–1988) from Eastern Lake Ontario, arranged by collection site, species sampled and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	124 CB	123 CB	156 CB	1254 CB	1256/ 1246 CB	PeCB	HCB	DDE	DDD	DDT	DIEL	DIOXIN	FURAN	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	P-MIR	P-MIR	o-non	t-non	OCS	PCB 1260	PCB 1254: 1260	Se
2	HERG	77	10	10	10	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	10	0	10	10	0	0	0	10	10	10
		78	10	0	0	0	0	10	0	0	0	0	0	0	10	0	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		79	10	0	0	10	0	10	10	10	10	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		80	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		81	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	0	0	0	0	10	10	0
		82	10	0	0	1	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	10	0	10	0	0	10	10	0	0	0	0	10	10	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	1	0	10	0	10	0	0	10	10	0	0	10	0	10	10	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	11	11	11	0	0	11	0	0	0	11	0	11	11	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	0	10	0
		86	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	1	1	10	0	10	0	0	0	10	10	1	10	0	10	10	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0
		88	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	1	1	1	1	1	1	0
3	HERG	73	18	0	0	0	0	0	0	0	0	0	0	0	18	18	18	18	18	0	0	18	0	18	0	0	18	0	0	0	0	0	18	18	0
		74	10	0	0	10	10	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	10	0
		75	10	0	0	10	10	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	10	0
4	HERG	73	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0
		81	10	0	0	10	2	10	0	0	0	10	10	10	10	10	10	10	10	0	0	8	0	10	0	0	10	10	0	0	0	0	10	10	0
		82	10	0	0	8	10	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	10	10	0	0	0	0	10	10	0
	DCCO	81	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	10	10	0	0	0	0	10	10	0
	CATE	81	8	0	0	0	0	0	0	0	0	8	8	8	8	0	8	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10	10	0
	BCNH	72	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	8	0	0	0	0	0	8	8	0
		82	12	0	0	11	12	12	0	0	0	12	12	12	12	12	12	12	12	0	0	12	12	12	0	0	0	12	0	0	12	0	12	12	0
5	HERG	81	10	0	0	10	9	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	10	10	0	0	0	0	10	10	0
		82	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	10	10	0	0	0	0	10	10	0
	DCCO	81	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	10	10	0	0	0	0	10	10	0
	BCNH	82	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	10	0	0	0	0	0	10	10	0
6	HERG	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		76	15	0	0	15	0	15	0	0	0	0	0	0	15	15	15	15	15	1	1	15	0	14	0	0	5	15	15	0	0	0	15	15	0
		77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		78	8	0	0	8	0	8	0	0	0	0	0	0	0	8	8	8	8	1	1	8	0	8	0	0	8	8	8	0	0	0	8	8	0
		79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		82	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	1	0	0
	DCCO	72	7	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7	7	0	0	7	0	0	0	0	7	0	0	0	0	0	1	1	0
		75	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	7	0	0
7	HERG	76	5	0	0	5	0	5	0	0	0	0	0	0	5	5	5	5	5	0	0	5	0	4	0	0	5	5	0	0	0	0	5	5	0
		77	4	0	0	4	0	4	0	0	0	0	0	0	4	4	4	4	4	0	0	4	0	4	0	0	0	4	4	0	0	0	4	4	0
		78	18	0	0	18	0	18	0	0	0	0	0	0	18	18	18	18	18	0	0	18	0	18	0	0	0	18	18	0	0	0	18	18	0
		80	11	0	0	11	11	11	0	0	0	0	0	0	11	11	11	11	11	0	0	11	11	11	11	1	1	11	11	0	0	0	11	11	0
		82	10	0	0	10	10	10	0	0	0	10	10	10	10	9	9	10	9	0	0	10	0	10	0	0	10	10	0	0	10	0	10	10	0
	COTE	75	4	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	4	0	0	4	0	0	0	0	4	4	0	0	0	0	4	4	0

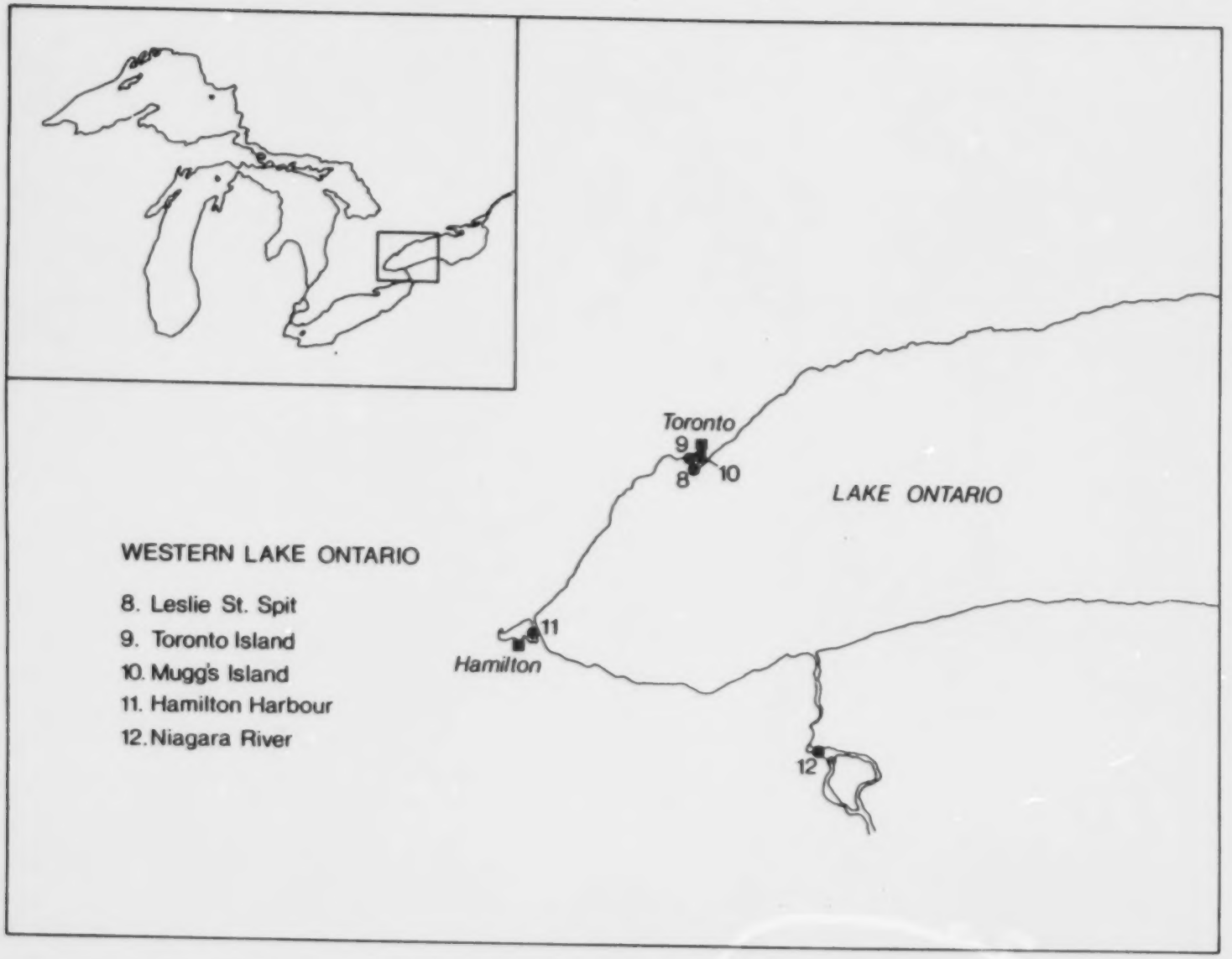

Figure 3. Western Lake Ontario and Niagara River colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 3. The sample size of eggs analyzed in each year (1970–1988) from Western Lake Ontario and the Niagara River arranged by collection site, species sampled and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	124 CB	123 CB	156 CB	1254 CB	1256/ 1246 CB	PeCB	HCB	DDD	DDE	DDT	DIEL	DIOXIN	FURAN	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	MIR	P-MIR	o-nan	t-nan	OCS	PCB 1260	PCB 1254: 1260	Be
9	HERG	70	4	0	0	3	0	4	0	0	0	0	0	0	4	0	4	4	4	0	0	4	0	4	0	0	0	4	4	0	0	0	4	4	0
		84	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	1	1	1	0
9	COTE	73	8	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8	8	0	0	8	0	0	0	8	0	8	0	0	0	0	8	0	0
		81	8	0	0	8	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	HERG	74	9	0	0	0	0	0	0	0	0	0	0	0	9	9	9	9	9	0	0	9	0	0	0	9	0	10	0	10	10	0	10	0	0
		75	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	10	0	10	0	10	10	0	10	0	0
		77	10	10	10	9	0	9	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	10	10	0	0	0	0	10	10	0	0
		78	4	0	0	2	0	4	0	0	0	0	0	0	4	0	4	4	4	0	0	4	0	10	0	10	10	0	0	0	0	12	10	10	0
		79	10	0	0	8	0	8	10	10	10	10	10	10	10	10	10	10	10	0	0	8	0	10	0	0	0	10	10	0	0	0	10	10	0
		80	9	0	0	9	0	9	0	0	0	9	9	9	9	9	9	9	9	0	0	9	0	10	0	0	0	9	0	0	0	0	9	9	0
		81	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		82	9	0	0	9	9	9	0	0	0	9	9	9	9	9	9	9	9	0	0	10	0	10	0	0	10	10	0	0	0	0	10	10	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	0	0	11	11	11	0	0	11	11	0	0	11	0	11	11	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		86	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	1	1	10	10	10	0	0	10	0	0	0	10	0	0	10	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	10	10	0
	COTE	72	5	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5	5	0	0	5	0	0	0	5	5	0	0	0	0	0	5	0	0
	RBGU	70	24	0	0	14	0	24	0	0	0	0	0	0	24	24	24	24	24	0	0	24	0	0	0	0	24	24	0	0	0	0	24	24	0
11	HERG	81	10	0	0	10	7	10	0	0	0	10	10	10	10	10	10	10	10	0	0	8	0	10	0	0	10	10	0	0	0	0	10	10	0
		82	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	1	0	0	0	0	1	1	0
		84	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	1	0	1	1	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0	0	1	1	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	1	0
	COTE	71	25	0	0	0	0	0	0	0	0	0	0	0	25	25	25	25	25	0	0	25	0	0	0	0	0	1	1	1	1	1	1	1	0
	RBGU	84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	10	10	0	0	0	10	0	0	10	0	10	10	0
12	HERG	79	10	0	0	10	0	10	10	10	10	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		81	10	0	0	10	5	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		82	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	0	10	0	10	0	0	10	10	0	0	0	0	10	10	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	1	0	1	1	1	0	0	1	1	0	0	0	0	1	1	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	11	11	11	0	0	11	6	0	0	11	0	11	11	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		86	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	1	1	10	10	10	0	0	10	10	0	10	10	0	0	10	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	10	0	10	0	0	0	10	10	1	10	1	10	10	0
		88	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0
	BCNH	82	1	0	0	1	0	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	1	0	0	1	0	1	1	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	1	1	0	1	1	0

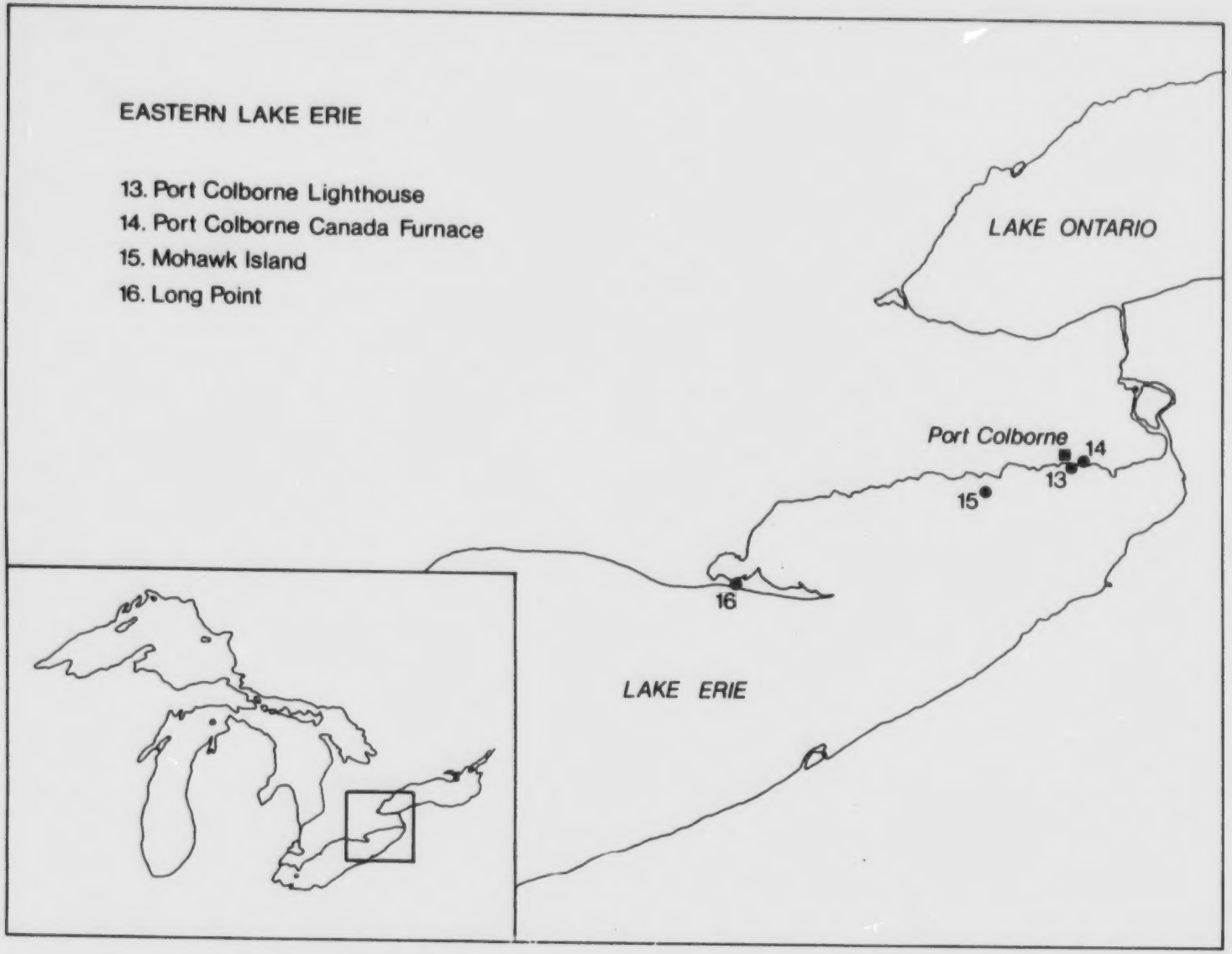

Figure 4. Eastern Lake Erie colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 4. The sample size of eggs analyzed in each year (1970–1988) from Eastern Lake Erie arranged by collection site, species sampled and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	124 CB	123 CB	135 CB	1234 CB	1236/ 1245 CB	PeCB	HCB	DDD	DDE	DDT	DIEL	DIOXIN	FURAN	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	MIR	P-MIR	o-non	t-non	OCS	PCB 1268	PCB 1254: 1260	Se
13	COTE	73	6	0	0	0	0	0	0	0	0	0	0	0	6	6	6	6	6	0	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0
14	HERG	74	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	10	0
		75	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	10	0
		77	10	1	1	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	1	0	10	10	0	0	0	10	10	1
		78	10	0	0	0	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		79	10	0	0	10	0	10	10	10	10	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		80	9	0	0	9	0	9	0	0	0	9	9	9	9	9	9	9	9	0	0	9	0	9	0	0	0	9	0	0	0	0	9	9	0
		81	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	0	0	6	0	10	0	0	10	10	0	0	0	0	10	10	0
		82	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	1	0	0	1	0	1	1	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	0	0	11	11	11	0	0	11	11	0	0	11	0	11	11	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	5	10	0	0	10	0	10	10	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	10	10	0	0	10	0	0	10	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0	1	1	0
		87	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	10	10	10	10	0	0	10	10	10	10	10	10	10	0
		88	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	1	1	1	0
	COTE	72	4	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	4	0	0	4	0	0	0	0	4	0	0	0	0	0	4	0	0
		73	2	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	0	0	2	0	0	0	0	2	0	0	0	0	0	2	0	0
15	HERG	76	10	0	0	0	0	10	0	0	0	0	0	0	10	0	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
16	FOTE	86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	1	1	0	1	1	0

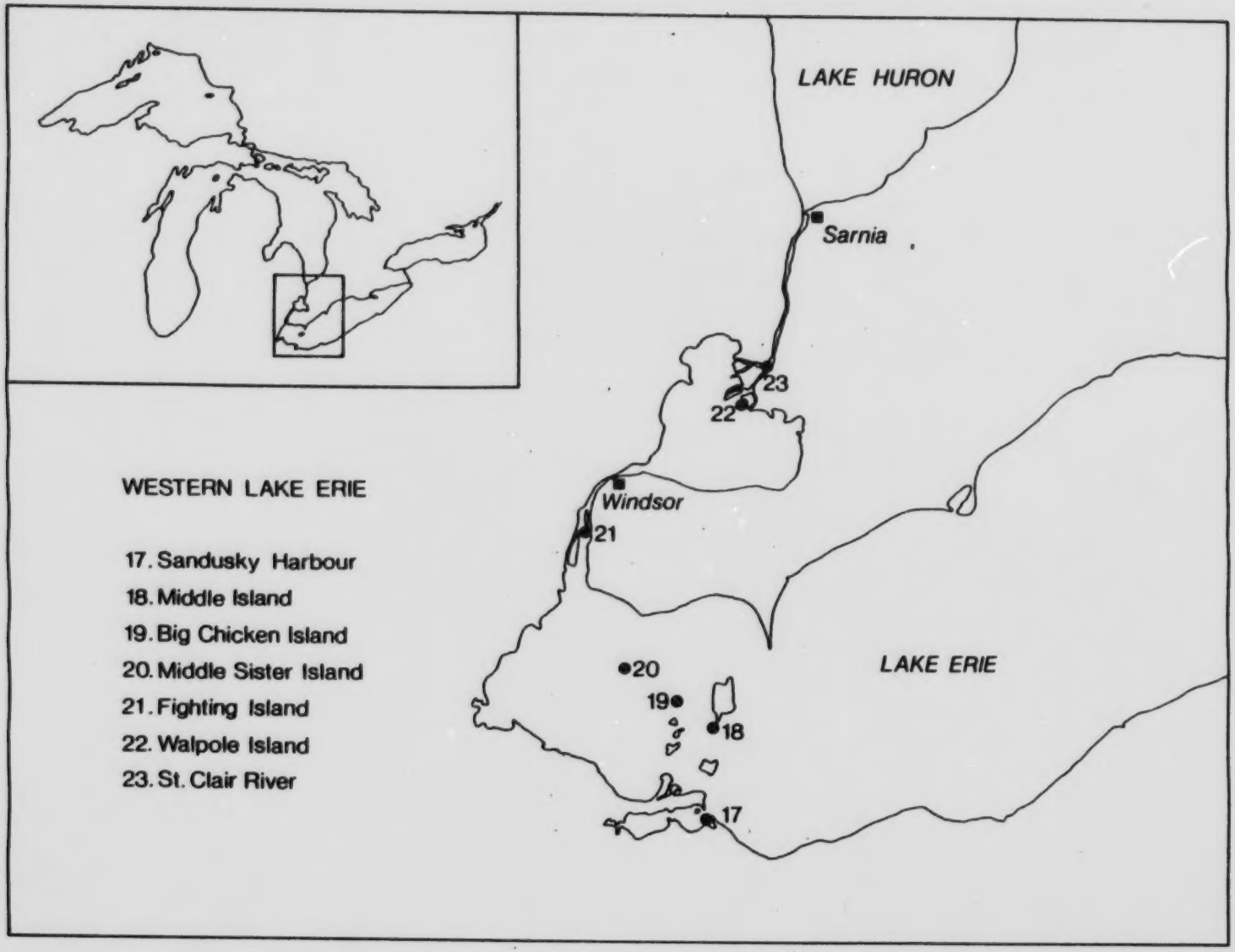

Figure 5. Western Lake Erie, Lake St. Clair and Detroit River colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 5. The sample size of eggs analyzed in each year (1970–1988) from Western Lake Erie, Lake St.Clair and the Detroit River arranged by collection site, species sampled, and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	124 CB	123 CB	136 CB	1234 CB	1236/ 1245 CB	PeCB	HCB	DDD	DDE	DDT	DIEL	DIOXIN	FURAN	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	MIR	p-MIR	o-non	b-non	OCS	PCB 1260	PCB 1254: 1260	Se
17	HERG	70	10	0	0	10	0	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	10	0	0	0	10	10	0	0	0	10	10	0
18	HERG	74	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	10	0
		75	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	10	10	0	0	0	0	10	10	0	
		77	10	1	1	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	10	10	0	0	0	0	10	10	0	
		78	10	0	0	0	0	10	0	0	0	0	0	0	10	0	10	10	10	0	0	10	0	10	0	1	0	10	10	0	0	0	10	10	1
		79	10	0	0	10	0	10	10	10	10	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		80	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		81	10	0	0	10	7	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	0	0	0	0	10	10	0
		82	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	0	0	10	0	0	10	10	0	0	0	0	10	10	0
		83	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	10	0	10	0	0	10	10	0	0	10	0	10	10	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	10	10	10	0	0	10	10	0	0	10	0	10	10	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	10	10	10	0	0	10	10	0	0	10	0	0	10	0
		87	10	0	0	10	10	10	0	0	0	0	10	10	10	10	10	10	10	1	1	10	10	10	10	0	0	10	10	10	10	10	10	10	0
		88	1	0	0	1	1	1	0	0	0	0	1	1	10	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	1	1	1	0
	BCNH	82	10	0	0	10	10	10	0	0	0	0	10	10	10	10	10	10	10	0	0	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	0	1	1	0
19	DCCO	72	18	0	0	0	0	0	0	0	0	0	0	0	18	18	18	18	18	0	0	18	0	0	0	0	18	18	0	0	0	0	18	0	0
		79	10	0	0	10	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	0	0
		81	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	10	0	0	0	10	10	0
		83	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	1	1	1	1	0	1	1	0
20	HERG	76	44	0	0	0	0	44	0	0	0	0	0	0	44	0	44	44	44	0	0	44	0	44	0	0	0	44	44	0	0	0	44	44	0
21	HERG	72	2	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	0	0	2	0	0	0	0	2	0	0	0	0	0	2	0	0
		76	11	0	0	0	0	11	0	0	0	0	0	0	11	0	11	11	11	0	0	11	0	11	0	0	0	11	11	0	0	0	11	11	0
		79	45	0	0	10	0	44	10	10	10	10	10	10	45	45	45	45	45	0	0	37	0	45	0	0	0	10	10	0	0	0	45	45	0
		81	10	0	0	10	7	10	0	0	0	10	10	10	10	10	10	10	10	1	0	0	0	10	0	0	10	10	0	0	0	0	10	10	0
		82	20	0	0	20	20	20	0	0	0	20	20	20	20	20	20	20	20	1	0	20	10	20	0	0	20	20	0	0	20	0	20	20	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	1	0	11	11	11	0	0	11	11	0	0	11	0	11	11	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	10	0	0	0	10	10	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	1	1	0	1	1	0
		87	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	10	10	10	10	10	10	10	10	0
		88	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	1	1	1	0
	COTE	72	3	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	0	0	3	0	0	0	0	3	3	0	0	0	0	3	0	0
		78	10	0	0	3	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
	RBGU	79	10	0	0	2	0	8	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	10	10	0	0	0	10	10	0	0	0	10	10	0
22	BCNH	86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	1	1	0	1	1	0
	FOTE	86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	1	1	0	1	1	0
25	HERG	87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	1	1	1	0

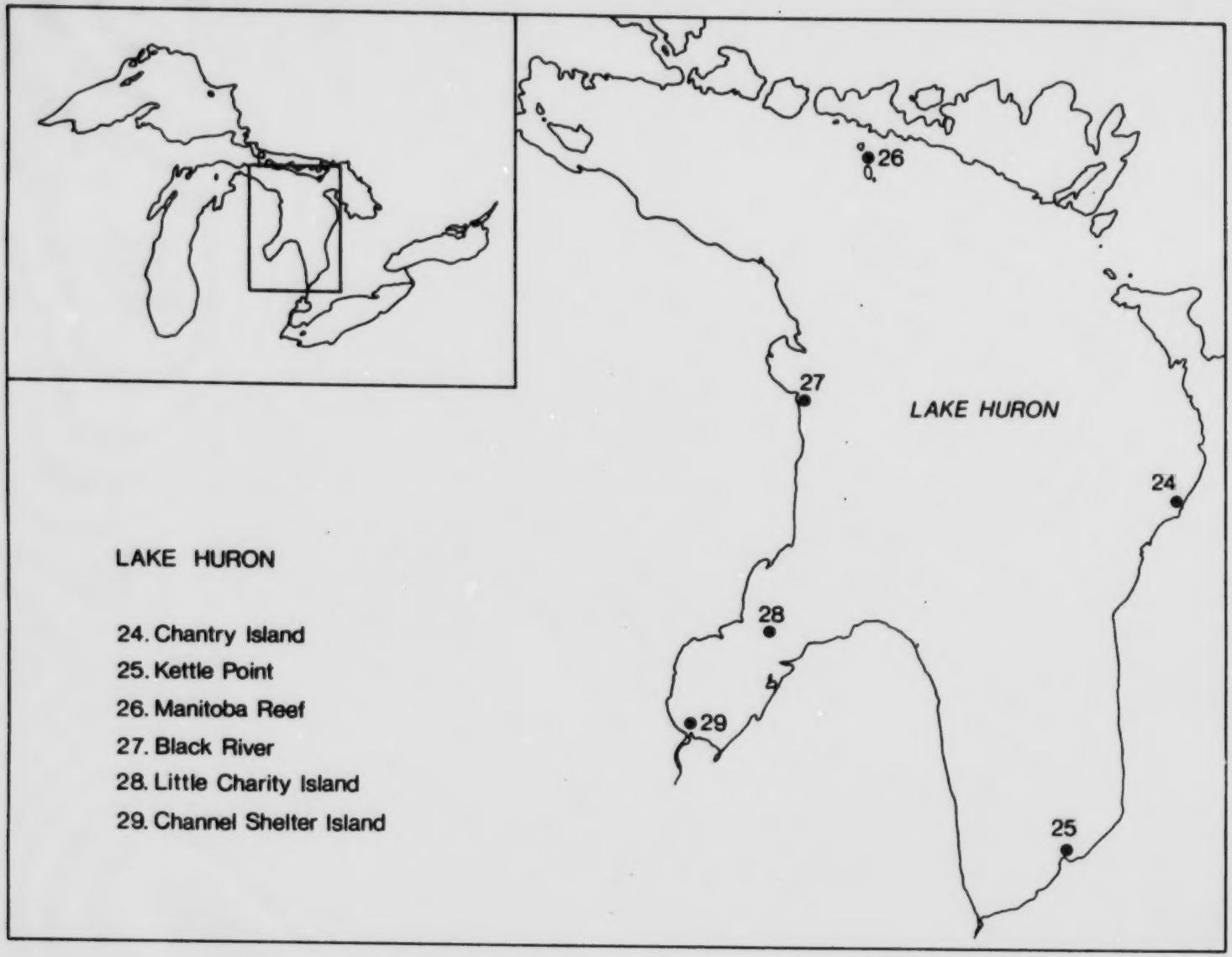

Figure 6. Lake Huron colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 6. The sample size of eggs analyzed in each year (1970–1988) from Lake Huron arranged by collection site, species sampled, and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	124 CB	123 CB	195 CB	1234 CB	1256/ 1346 CB	PeCB	HCB	DDD	DDE	DDT	DIEL.	DIOXIN	FURAN	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	MIR	P-MIR	o-non	b-non	OCS	PCB 1268	PCB 1254: 1260	Se
24	HERG	74	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	10	0
		75	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	10	0
		77	10	1	1	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	1	0	10	0	0	0	0	10	10	1
		78	15	0	0	5	0	15	0	0	0	0	0	0	15	5	15	15	15	0	0	15	0	15	0	0	0	15	10	0	0	0	15	15	0
		79	10	0	0	10	0	10	0	0	0	10	0	0	10	10	10	10	10	0	0	10	0	10	0	0	0	10	15	0	0	0	10	10	0
		80	10	0	0	10	0	10	10	10	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		81	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	9	0	10	0	0	9	10	0	0	0	0	10	10	0
		82	10	0	0	3	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	10	0	10	0	0	10	10	0	0	0	10	0	10	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	1	0	11	11	11	0	0	11	11	0	0	0	11	0	11	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	9	10	0	0	10	0	10	10	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	10	10	0	0	10	0	0	0	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	1	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	0	1	1	0
		88	13	0	0	13	13	13	0	0	0	13	13	13	13	13	13	13	13	0	0	13	13	13	13	0	0	13	13	13	13	13	13	13	0
	BCNH	82	1	0	0	0	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	1	0	0	1	0	1	1	0
25	COTE	72	2	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0
26	HERG	80	10	0	0	0	0	0	0	10	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0
27	HERG	80	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0
28	HERG	80	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0
29	HERG	80	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0
		81	10	0	0	10	2	10	0	0	0	10	10	10	10	9	10	10	10	1	0	2	0	10	0	0	10	10	0	0	0	0	10	10	0
		82	10	0	0	10	8	10	0	0	0	10	10	10	10	9	10	10	10	1	0	10	0	10	0	0	10	10	0	0	10	0	10	10	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	1	0	11	11	11	0	0	11	11	0	0	11	0	11	11	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	10	10	0	0	10	0	0	10	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	1	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0
		88	16	0	0	16	16	16	0	0	0	16	16	16	16	16	16	16	16	0	0	16	16	16	16	0	0	16	16	16	16	16	16	16	0

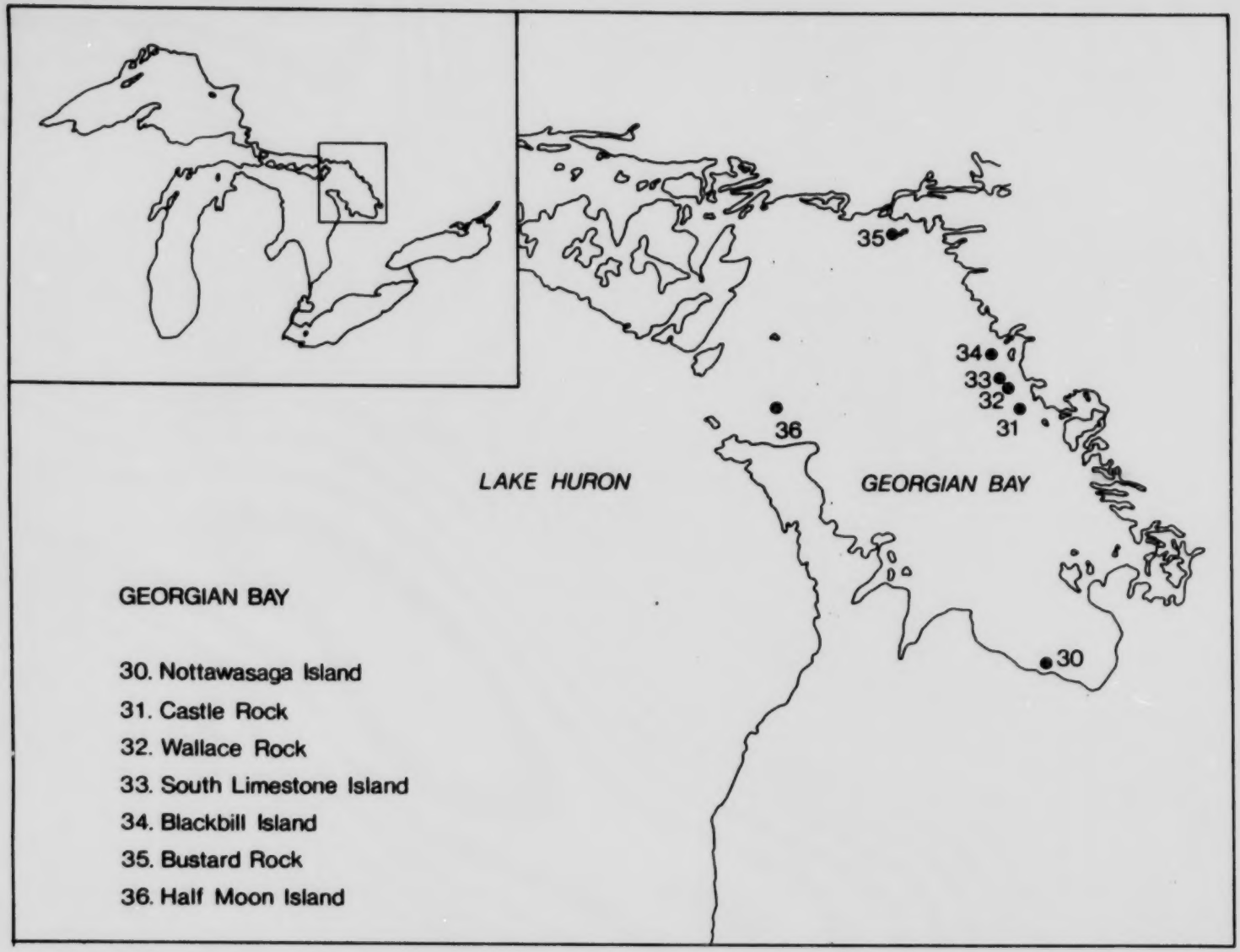

Figure 7. Georgian Bay colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 7. The sample size of eggs analyzed in each year (1970–1988) from Georgian Bay arranged by collection site, species sampled, and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	c-chl	124 CB	123 CB	135 CB	1234 CB	1235/1245 CB	PeCB	HCB	DDD	DDE	DDT	DIEL	DIOXIN	FURAN	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	MIR	P-MIR	o-non	t-non	OCS	PCB 1260	PCB 1254:1260	Se
30	HERG	80	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0
31	HERG	80	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0
32	DCCO	71	2	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	0	0	2	0	0	0	0	2	0	0	0	0	0	2	0	0
		72	3	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	0	0	3	0	0	0	0	3	0	0	0	0	0	3	0	0
		73	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0
33	HERG	76	2	0	0	2	0	2	0	0	0	0	0	0	2	2	2	2	2	0	0	2	0	0	0	0	2	2	2	0	0	0	2	2	0
	CATE	72	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0
		80	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0
	COTE	81	0	0	0	0	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	0	0	0	0	0	0	10	0	10	10	0	10	0	0
34	DCCO	70	7	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7	0	0	7	0	0	0	0	0	0	0	0	0	0	7	0	0
		71	8	0	0	0	0	0	0	0	0	0	0	0	6	8	8	8	8	0	0	8	0	0	0	0	7	0	0	0	0	0	8	0	0
35	HERG	72	3	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
36	CATE	80	9	0	0	0	0	0	0	0	0	9	9	9	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	0

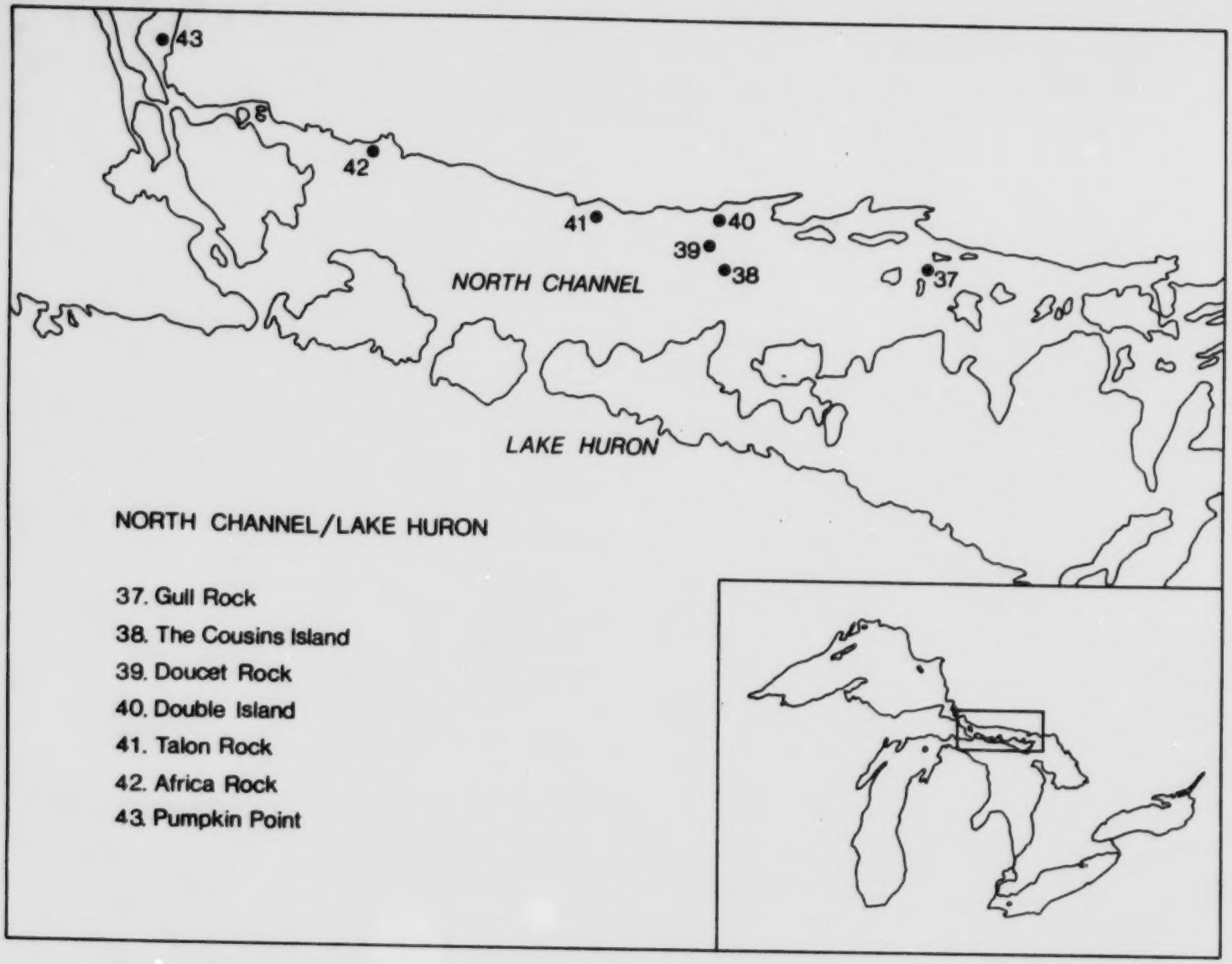

Figure 8. North Channel, Lake Huron colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 8. The sample size of eggs analyzed in each year (1970–1988) from North Channel, Lake Huron arranged by collection site, species sampled, and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	124 CB	123 CB	156 CB	1234 CB	1256/ 1246 CB	PeCB	HCB	DDD	DDE	DDT	DIEL.	FURAN DIOXIN	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	MER	P-MR	o-non	t-non	OCS	PCB 1268	PCB 1254: 1260	Se
37	DCCO	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		75	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0
38	CATE	80	10	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
39	DCCO	71	7	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7	0	0	7	0	0	0	0	7	0	0	10	0	10	10	0
		72	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	0	0	2	0	0	0	0	2	0	0	0	0	7	0	0
		75	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0
40	HERG	74	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	10	10	0
		75	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	10	10	0
		77	10	1	1	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	10	10	0
		78	10	0	0	0	0	0	0	0	0	0	0	0	10	0	10	10	10	0	0	10	0	10	0	1	0	10	10	0	0	0	10	1
		79	10	0	0	10	0	10	10	10	10	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	0
		80	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	0
		81	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	7	0	0	0	10	0	0	0	0	10	0
		82	10	0	0	10	10	10	0	0	0	10	10	10	10	7	10	10	10	0	0	9	0	10	0	0	10	10	0	0	0	0	10	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	0	0	10	10	10	0	0	10	10	0	0	10	0	10	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	11	11	0	0	11	0	11	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	10	0
		86	1	0	0	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	0
		88	13	0	0	13	13	13	0	0	0	13	13	13	13	13	13	13	13	13	13	13	13	13	0	0	13	13	13	13	13	13	13	0
41	DCCO	71	3	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0
		72	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
42	DCCO	75	2	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0
		79	9	0	0	9	0	9	0	0	0	0	0	0	9	9	9	9	9	0	0	2	0	0	0	0	2	0	0	0	0	2	2	0
43	HERG	80	10	0	0	0	0	0	0	0	0	10	10	0	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		85	10	0	0	10	10	10	0	0	0	10	10	0	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	0	10	0	0
		86	1	0	0	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	1	1	0

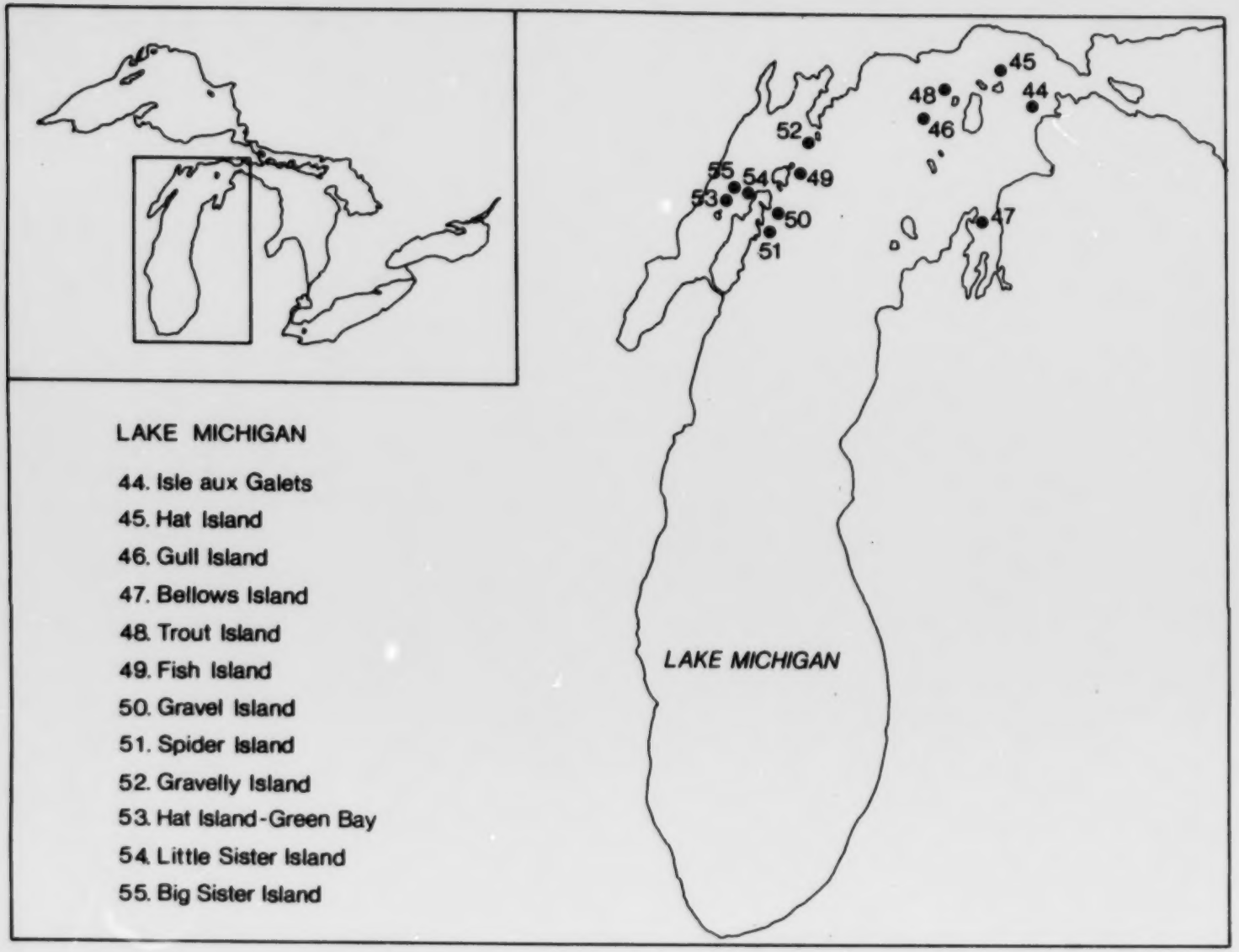

Figure 9. Lake Michigan colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 8. The sample size of eggs analyzed in each year (1970–1988) from Lake Michigan arranged by collection site, species sampled, and compound analyzed.

Col. No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	124 CB	123 CB	156 CB	1284 CB	1256/ 1346 CB	PeCB	HCB	DDD	DDE	DDT	DIEL.	DIOXIN	FURAN	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	P-MIR	P-MIR	o-non	t-non	OCS	PCB 1260	PCB 1254: 1260	Se
44	CATE	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	HERG	77	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CATE	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
46	HERG	76	10	0	0	4	0	10	0	0	0	0	0	0	10	0	10	10	10	0	0	10	0	10	0	0	0	10	9	0	0	0	10	10	0
		79	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	0	0	10	9	0	0	0	10	10	0
		80	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	8	0	10	0	0	0	10	10	0	0	0	10	10	0
		81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0	0	10	0	0	0	0	10	10	0
		82	10	0	0	10	10	10	0	0	0	10	10	10	10	8	10	10	10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		83	11	0	0	11	11	11	0	0	0	11	11	11	11	11	11	11	11	1	1	10	0	10	0	0	10	10	0	0	10	0	10	10	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	11	11	11	0	0	11	11	0	0	11	0	11	11	0
		85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		88	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	1	0
47	HERG	76	10	0	0	0	0	10	0	0	0	0	0	0	10	0	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
48	HERG	88	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	1	0	1	1	0
49	HERG	84	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	*	0	0	0	1	0	0	1	0	1	1	0
50	HERG	84	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	1	0	0	1	0	1	1	0
51	HERG	84	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	1	0	0	1	0	1	1	0
52	CATE	80	10	0	0	0	0	0	0	0	0	10	10	10	10	0	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	10	0
53	HERG	84	1	0	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0	1	0	1	1	0
54	HERG	77	10	1	1	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	1	0	10	10	0	0	0	10	10	1
55	HERG	71	0	0	0	0	0	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	0	10	0	0	0	10	0	0	0	0	10	10	0
		72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		73	10	0	0	0	0	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	0	10	0	0	0	10	0	0	0	0	10	10	0
		74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		76	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	0	10	0	0	0	10	0	0	0	0	10	10	0
		77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		78	10	0	0	10	0	10	0	0	0	0	0	0	10	0	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		79	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	8	0	10	0	0	0	10	10	0	0	0	10	10	0
		80	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	0	10	0	0	0	10	10	0	0	0	10	10	0
		82	10	0	0	10	10	10	0	0	0	10	10	10	10	9	10	10	10	1	1	10	10	10	0	0	10	10	0	0	10	0	10	10	0
		83	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	10	10	0	0	10	10	0	0	10	1	10	10	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	10	10	0	0	10	0	10	10	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	10	10	0	0	0	10	0	0	10	0	10	10	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	0	1	1	0
		87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

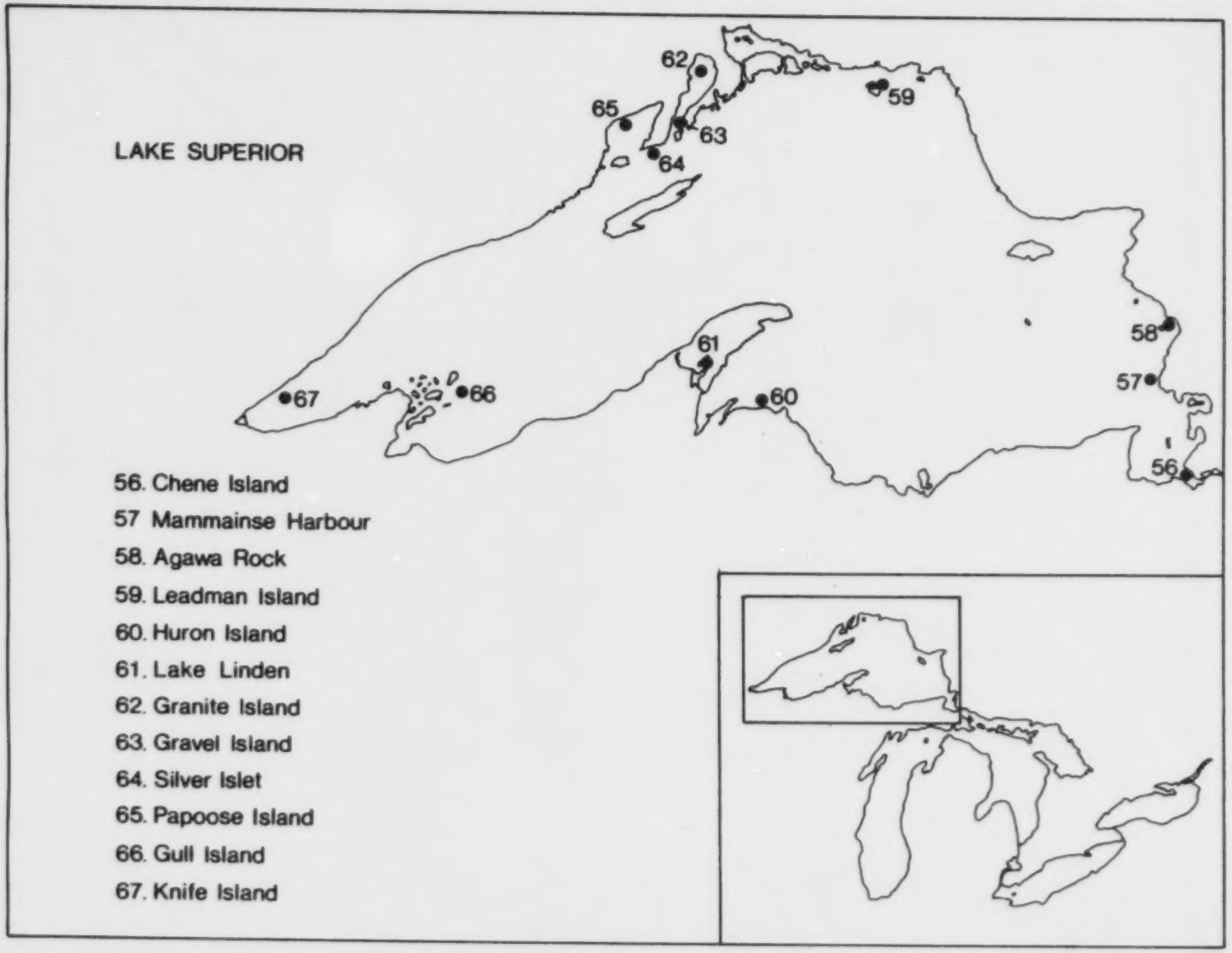

Figure 10. Lake Superior colonies of fish-eating birds from which eggs were collected for contaminant analysis.

Table 10. The sample size of eggs analyzed in each year (1970–1988) from Lake Superior arranged by collection site, species sampled, and compound analyzed.

Col No.	Spec	Yr	% Lip	As	Cd	a-chl	g-chl	o-chl	126 CB	123 CB	136 CB	1234 CB	1256/ 1345 CB	PeCB	CB	DDD	DDE	DDT	DIEL. DKO00	FURA	HEP EPX	a-hch	b-hch	g-hch	Pb	Hg	MIR	P-MIR	o-non	t-non	OCS	C 138	PCB 1264: 1268	Sb
56	HERG	83	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0
57	HERG	74	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	0
		75	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	0
		77	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	10	10	0	0	0	10	10	0	0	0	10	0
		78	8	0	0	8	0	8	0	0	0	0	0	0	8	8	8	8	8	0	0	8	8	8	0	0	0	8	8	0	0	0	8	0
58	HERG	78	10	0	0	7	0	10	0	0	0	0	0	0	10	0	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	0
		79	10	0	0	10	0	10	10	10	10	10	10	10	10	10	10	10	10	0	0	6	0	10	0	0	0	10	10	0	0	0	10	0
		80	10	0	0	0	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	0	0	0	0	10	0
		81	10	0	0	10	1	10	0	0	0	10	10	10	10	10	10	10	10	1	0	10	0	10	0	0	10	10	0	0	0	0	10	0
		82	10	0	0	7	10	10	0	0	0	10	10	10	10	10	10	10	10	1	0	10	0	10	0	0	10	10	0	0	10	0	10	0
		83	12	0	0	11	11	12	0	0	0	11	11	11	12	12	12	11	12	1	0	12	11	12	0	0	11	12	0	0	11	0	11	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	10	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	10	10	0	0	10	0	0	0
		86	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	1	1	0	1	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0
		88	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0
59	HERG	83	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0
60	HERG	83	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0
61	HERG	83	1	0	0	0	1	1	0	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0
62	HERG	73	2	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	0	0	2	0	0	0	0	2	0	0	0	0	0	2	0
		74	9	0	0	0	0	0	0	0	0	0	0	0	9	9	9	9	9	0	0	9	0	0	0	0	9	9	0	0	0	0	9	0
		76	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	6	0	0	10	10	0	0	0	0	10	0
		78	10	0	0	2	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	0
		79	10	0	0	10	0	10	10	10	10	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	0
		80	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	9	0	0	0	10	0	0	0	0	10	0
		81	10	0	0	10	0	10	0	0	0	10	10	10	10	10	10	10	10	0	0	10	0	10	0	0	10	10	0	0	0	0	10	0
		82	10	0	0	9	10	9	0	0	0	10	10	10	10	10	10	10	10	0	0	10	10	10	0	0	10	10	0	0	10	0	10	0
		84	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	0	10	0	0	10	0	0	0
		85	10	0	0	10	10	10	0	0	0	10	10	10	10	10	10	10	10	1	1	10	10	10	0	0	10	10	0	0	10	0	10	0
		86	10	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0	1	0
		87	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0
		88	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	0
63	DCCO	83	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	1	0	0	1	0	1	0
64	HERG	73	2	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	0	0	2	0	0	0	0	2	0	0	0	0	0	2	0
		75	10	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	0	0	0	10	10	0	0	0	0	10	0
		77	10	0	0	10	0	10	0	0	0	0	0	0	10	10	10	10	10	0	0	10	0	10	0	0	0	10	10	0	0	0	10	0
65	HERG	80	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0
66	HERG	83	2	0	0	1	1	2	0	0	0	1	1	1	1	1	1	0	1	0	0	1	1	1	0	0	0	1	0	0	1	0	1	0
		84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
67	HERG	83	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0

Methodological and Statistical Notes specific to Table 11.

1. All analytical data have been calculated on a wet weight basis.

2. All means and standard deviation values are reported at four significant digits. Trailing zeros in these values are truncated.

3. Dioxin and Furan compounds are reported in pg/g. All other compounds are reported in ug/g.

4. All sample sizes reported as (N=1) in years prior to 1985 represent a sample of one egg used in chemical analysis. All sample sizes reported as (N=1) in years after 1985 represent a sample of 10 eggs which were pooled and analyzed as a single sample.

5. Analytical results for DDD and DDT which are equal to or less than twice the detection limit (i.e. 0.01 ug/g) should not be considered absolute values. Rather they are indicative of very low levels which are approaching the detection limits of these chemicals.

6. The detection limits used in the analytical determination of PCBs, chlorinated benzenes, and organochlorine pesticides varied with the laboratory and methodology used. Changes in methodology principally affected determination and quantitation of the PCBs. Detection limits have not been determined formally but generally the following can be used as a guide:

All chlorinated benzenes	0.001 ug/g
All organochlorine pesticides	0.005 ug/g
All polychlorinated biphenyls	0.01 ug/g

Detection limits for metals
(based on maximum sample weight of 1 g.):

Arsenic	0.01 ug/g
Cadmium	10 ug/g
Mercury	0.02 ug/g

(Ontario Research Foundation, 1977;1979)

The minimum detection limits for dioxin and furan compounds exist within the ranges listed below. Fluctuations in detection limits occur subject to the cleanliness of the samples at the time of analysis and the condition of the ion source of the mass spectrometer at any given time.

Tetrachlorodioxins/furans	1-2 pg/g
Pentachlorodioxins/furans	2-3 pg/g
Hexachlorodioxins/furans	3-4 pg/g
Heptachlorodioxins/furans	6 pg/g
Octachlorodioxins/furans	8-10 pg/g

7. All PCB data have been expressed as Aroclor 1254:1260 1:1 mixture or Aroclor 1260. In recent years, these values have been obtained by determination of PCB congeners #138 and #180. Earlier results have been checked against more recent results and correction factors applied where necessary.

   However, the results from the Aroclor 1254:1260 1:1 mixture appear to be roughly twice that of results obtained by summing all PCB congeners (ΣPCB). Recently, factors have been obtained which convert Aroclor 1254:1260 1:1 mixture results to ΣPCB results (Turle et. al., 1991). Those factors are: 0.461 for results from Lake Ontario, 0.444 for Lake Erie, 0.484 for Lake Huron and 0.450 for Lake Superior. These factors are only applicable to Herring Gull eggs from the Great Lakes.

8. Analyses were conducted under contract at the Ontario Research Foundation or ORTECH Corporation, under the direction of Dr.L.Reynolds from 1972 to 1985 (Reynolds and Cooper, 1975). From 1986, analyses have been performed by H.Won at the CWS National Wildlife Research Centre (Peakall et al., 1986).

   All dioxin analyses were performed by M.Simon and M.Mulvihill of CWS National Wildlife Research Centre (Norstrom et al., 1986). These methods have been automated.

   Metal analyses were performed by Ortech, Missisauga, Ontario, and Berringer-Magenta Corporation, Toronto, Ontario. Methods of analysis are described in Struger et al., 1987.

9. Methodology changes have been summarised along with quality assurance principles for results obtained by contract (Turle et. al., 1988).

10. Chlordane isomers have been presented as alpha-chlordane, trans-chlordane, and oxy-chlordane. Alpha-chlordane is synonymous with cis-chlordane, and trans-chlordane is synonymous with gamma-chlordane.

Section 1.

Index to Contaminant Data, summarized by Compound Analyzed.

Table 11. Contaminant Data, summarized by Compound Analyzed.

Index to contaminant data, summarized by compound analyzed.

*In cases where several congeners or isomers have been analyzed, page numbers refer to first isomer for which data for the colonies listed has been collected. The data for the remaining isomers or congeners follow chronologically after the first isomer or congener.

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TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SNAKE ISLAND	HERRING GULL	N							10	10	10	10	10	10	11	10
		MEAN							9.64	9.68	8.55	7.88	9.51	8.35	8.064	9.12
		STD							1.508	1.571	.7649	.6125	.7666	.5126	.6918	.7361
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10									
		MEAN			9.931	7.21	7.81									
		STD			4.072	1.423	1.737									
PIGEON ISLAND	HERRING GULL	N		1									10	10		
		MEAN		5.4									8.72	8.14		
		STD											.5712	.9778		
	DOUBLE-CRESTED CORMORANT	N											10			
		MEAN											4.24			
		STD											.3239			
	CASPIAN TERN	N											8			
		MEAN											8.3			
		STD											1.243			
	BLACK-CROWNED NIGHT-HERON	N		1										12		
		MEAN		9.6										5.983		
		STD												1.213		
LITTLE GALLOO ISLAND	HERRING GULL	N											10	10		
		MEAN											9.2	8.68		
		STD											1.134	.7714		
	DOUBLE-CRESTED CORMORANT	N											10			
		MEAN											4.23			
		STD											.5813			
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												5.1		
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1		1		15	1	8	1	1	1	1		
		MEAN	8.4	8.7		7.3		9.487	7.7	9.588	7.0	7.8	7.1	8.1		
		STD						.8983		.5842						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR			
			85	86	87	88
STRACHAN ISLAND	HERRING GULL	N		1		1
		MEAN		7.5		9.3
		STD				
SNAKE ISLAND	HERRING GULL	N	10	10	1	1
		MEAN	9.19	7.48	8.9	8.8
		STD	.6624	.8417		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SCOTCH BONNET ISLAND	DOUBLE-CRESTED CORMORANT	N		7			1									
		MEAN		3.457			0.6									
		STD		1.29												
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	4	19		11		10		
		MEAN						8.68	7.975	9.484		9.218		8.73		
		STD						.4324	1.533	.9957		1.173		1.332		
	COMMON TERN	N					4									
		MEAN					7.6									
		STD					.9557									
LESLIE ST. SPIT	HERRING GULL	N								4						
		MEAN								8.7						
		STD								1.51						
TORONTO ISLANDS	COMMON TERN	N			6											
		MEAN			5.917											
		STD			.8377											
MUGG'S ISLAND	HERRING GULL	N				9	10		10	4	10	9	10	9	11	10
		MEAN				7.789	7.69		8.79	8.575	8.73	7.856	8.93	8.656	8.491	8.89
		STD				1.214	.7767		1.039	.4193	.5458	.7955	.7846	1.577	.7286	.8491
	COMMON TERN	N		5												
		MEAN		7.04												
		STD		1.68												
	RING-BILLED GULL	N									24					
		MEAN									9.904					
		STD									1.095					
HAMILTON HARBOUR	HERRING GULL	N											10	1		1
		MEAN											9.77	8.7		8.7
		STD											.7304			
	COMMON TERN	N	25													
		MEAN	7.448													
		STD	4.382													
	RING-BILLED GULL	N														10
		MEAN														8.74
		STD														.8682

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR			
			85	86	87	88
LESLIE ST. SPIT	HERRING GULL	N				1
		MEAN				8.6
		STD				
MUGG'S ISLAND	HERRING GULL	N	10	10	1	
		MEAN	9.14	8.1	9	
		STD	.6867	1.182		
HAMILTON HARBOUR	HERRING GULL	N		1	1	
		MEAN		6.8	9.2	
		STD				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
NIAGARA RIVER	HERRING GULL	N							10		10	1	11	10	10	10
		MEAN							8.72		9.58	8.8	7.855	9.56	9.19	8.39
		STD							.5051		.6925		.4435	1.502	.7937	.5021
	BLACK-CROWNED NIGHT-HERON	N										1				1
		MEAN										5.6				5.5
		STD														
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6												
		MEAN		8.233												
		STD		.5086												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	10	10	9	10	1	11	10	10	1
		MEAN			8.5	8.21	9.84	8.95	8.59	7.611	9.63	10.6	8.273	9.52	9.17	7.6
		STD			1.05	.6471	1.636	.9664	.4771	.4676	1.008		.9056	1.409	.6056	
	COMMON TERN	N	4	2												
		MEAN	8.175	7.2												
		STD	.8261	.5657												
MOHAWK ISLAND	HERRING GULL	N						10								
		MEAN						9.67								
		STD						.9684								
LONG POINT PROVINCIAL PARK	FORSTER'S TERN	N														1
		MEAN														7.3
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N							10							
		MEAN							9.36							
		STD							.7321							
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10	10	10	10	10	10	1
		MEAN			8.49	8.44	9	8.8	8.12	7.07	8.64	7.94	7.77	9.12	9.04	7.7
		STD			.853	.8488	1.076	1.143	1.057	.9945	.8631	1.303	.5293	1.209	.8733	
	BLACK-CROWNED NIGHT-HERON	N										10				1
		MEAN										5.67				5.1
		STD										1.076				
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18						10		10		1			
		MEAN	8.261						4.15		4.06		4.7			
		STD	1.752						.2635		.6467					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
NIAGARA RIVER	HERRING GULL	N	1	1
		MEAN	8.9	7.8
		STD		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1
		MEAN	9.64	8.5
		STD	1.284	
MIDDLE ISLAND	HERRING GULL	N	10	1
		MEAN	8.72	7.3
		STD	1.214	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
MIDDLE SISTER ISLAND	HERRING GULL	N						44								
		MEAN						9.186								
		STD						.9790								
FIGHTING ISLAND	HERRING GULL	N	2					11	45		10	20	11	10	10	1
		MEAN	13.5					8.327	9.04		8.13	8.6	8.109	9.05	8.56	6.7
		STD	.7071					.8912	.7608		.8807	1.403	.7842	.7561	1.376	
	COMMON TERN	N	3						10							
		MEAN	15.07						10.08							
		STD	7.574						1.333							
	RING-BILLED GULL	N							10					10		
		MEAN							9.52					8.93		
		STD							1.136					.3057		
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N														1
		MEAN														5.8
		STD														
	FORSTER'S TERN	N														1
		MEAN														7.9
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
FIGHTING ISLAND	HERRING GULL	N	10	1
		MEAN	8.01	7.6
		STD	.9515	
ST. CLAIR RIVER	HERRING GULL	N	1	
		MEAN	9.1	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE HURON

			YEAR													
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
CHANTRY ISLAND	HERRING GULL	N					10	10		10	15	10	10	10	10	11
		MEAN					8.15	8.61		9.44	10.2	7.72	9.42	9.23	8.22	8.027
		STD					1.052	.8157		.8113	1.664	.8108	.7146	1.451	.9589	.7656
	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													6.3	
		STD														
KETTLE POINT	COMMON TERN	N			2											
		MEAN			12.95											
		STD			2.051											
MANITOBA REEF	HERRING GULL	N											10			
		MEAN											8.3			
		STD											.4761			
BLACK RIVER	HERRING GULL	N											10			
		MEAN											7.92			
		STD											.7036			
LITTLE CHARITY ISLAND	HERRING GULL	N											10			
		MEAN											7.83			
		STD											.7134			
CHANNEL SHELTER ISLAND	HERRING GULL	N											10	10	10	11
		MEAN											8.85	7.24	9.04	8.655
		STD											.8086	.8099	1.221	.6006
NOTTAWASAGA ISLAND	HERRING GULL	N											10			
		MEAN											7.93			
		STD											.8845			
WALLIS ROCK	DOUBLE-CRESTED CORMORANT	N		2	3	1										
		MEAN		3.9	7.7	3.2										
		STD		.5657	1.852											
SOUTH LIMESTONE ISLAND	HERRING GULL	N							2							
		MEAN							9.3							
		STD							1.414							
	CASPIAN TERN	N			1											
		MEAN			9.8								10			
		STD											7.11			
													.5666			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	8.82	9.04	8	9	8.662
		STD	.5633	.7516			.3641
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	10	1	1	16
		MEAN	9.35	8.83	7.9	9.5	9.131
		STD	.4403	.5272			1.148

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	7	8												
		MEAN	4.543	5.5												
		STD	3.561	1.307												
CASTLE ROCK	HERRING GULL	N											10			
		MEAN											7.74			
		STD											0.964			
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N			3											
		MEAN			8.667											
		STD			2.663											
HALF MOON ISLAND	CASPIAN TERN	N											9			
		MEAN											8.844			
		STD											.8263			
GULL ROCK	DOUBLE-CRESTED CORMORANT	N			9			1								
		MEAN			7.5			4.1								
		STD			1.401											
THE COUSINS ISLAND	CASPIAN TERN	N											10			
		MEAN											7.01			
		STD											0.731			
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N		7	2			1								
		MEAN		5.371	7.35			0.7								
		STD		.7365	.3536											
DOUBLE ISLAND	HERRING GULL	N					10	10		10	10	10	10	10	10	11
		MEAN					9.31	7.25		9.42	8.98	8.72	9.06	9.58	8.3	8.455
		STD					0.948	1.136		2.853	.6408	1.004	1.485	.8715	.9854	1.214
TALON ROCK	DOUBLE-CRESTED CORMORANT	N		3	1											
		MEAN		3.8	6.1											
		STD		1.732												
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				1		2				9				
		MEAN				3.6		3.8				4.5				
		STD						.1414				0.495				
PUMPKIN POINT	HERRING GULL	N											10			
		MEAN											7.91			
		STD											.7937			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE HURON

			YEAR				
			84	85	86	87	88
DOUBLE ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	9.85	9.51	8.3	8.6	8.392
		STD	.9618	.5801			.5766
PUMPKIN POINT	HERRING GULL	N		10	1		
		MEAN		9.45	8		
		STD		.7878			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE MICHIGAN

			YEAR											
			71	73	76	77	78	79	80	81	82	83	84	85	86
ISLE AUX GALETS	CASPIAN TERN	N							9						
		MEAN							8.8						
		STD							.8047						
HAT ISLAND	HERRING GULL	N				9									
		MEAN				10.04									
		STD				.9071									
	CASPIAN TERN	N							9						
		MEAN							8.511						
		STD							.5776						
GULL ISLAND	HERRING GULL	N					10	10	10	1	10	11	10	9	
		MEAN					9.73	9.04	8.47	8.0	9.21	7.9	9.47	9.633	
		STD					0.99	.4115	.9334		2.156	0.645	.8832	.8062	
BELLOWS ISLAND	HERRING GULL	N					10								
		MEAN					9.8								
		STD					1.111								
TROUT ISLAND	HERRING GULL	N													1
		MEAN													7.9
		STD													
FISH ISLAND	HERRING GULL	N											1		
		MEAN											9.8		
		STD													
GRAVEL ISLAND	HERRING GULL	N											1		
		MEAN											9.5		
		STD													
SPIDER ISLAND	HERRING GULL	N											1		
		MEAN											7.7		
		STD													
GRAVELLY ISLAND	CASPIAN TERN	N							10						
		MEAN							7.76						
		STD							.6786						
LITTLE SISTER ISLAND	HERRING GULL	N				10									
		MEAN				9.96									
		STD				.9812									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE MICHIGAN

			87	88
GULL ISLAND	HERRING GULL	N	1	1
		MEAN	9.2	9.3
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE MICHIGAN

			YEAR												
			71	72	73	74	76	77	78	79	80	82	83	84	85	86
BIG SISTER ISLAND	HERRING GULL	N	9	1	10	1	10	1	10	10	10	10	10	10	10	1
		MEAN	7.511	7.8	7.12	8.3	8.9	8.1	9.12	9.99	8.31	8.94	9.03	9.02	9.89	10
		STD	.6936		.6477		1.282		1.388	2.04	0.978	1.088	.8111	.9555	.3446	
HAT ISLAND GREEN BAY	HERRING GULL	N												1		
		MEAN												8.7		
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE MICHIGAN

			YEAR	
			87	88
BIG SISTER ISLAND	HERRING GULL	N	1	1
		MEAN	10.45	7.74
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE SUPERIOR

			YEAR													
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
CHENE ISLAND	HERRING GULL	N											1			
		MEAN											8.5			
		STD														
MAMMAINSE HARBOUR	HERRING GULL	N		10	10		10	8								
		MEAN		8.68	7.24		9.25	9.263								
		STD		1.005	1.403		.9144	.8141								
AGAWA ROCK	HERRING GULL	N						10	10	10	10	10	12	10	10	1
		MEAN						9.74	9.29	8.32	8.91	8.9	8.933	9.3	9.66	7.8
		STD						1.139	0.74	.7068	1.121	1.231	.6867	.7528	.7834	
LEADMAN ISLANDS	HERRING GULL	N											1			
		MEAN											8.5			
		STD														
HURON ISLAND	HERRING GULL	N											1			
		MEAN											7.4			
		STD														
LAKE LINDEN	HERRING GULL	N											1			
		MEAN											7.2			
		STD														
GRANITE ISLAND	HERRING GULL	N	2	9		10		10	10	10	10	10		10	10	1
		MEAN	7.75	8.789		9.55		9.72	9.24	6.85	8.44	8.45		9.74	9.4	7.4
		STD	.9192	.8507		.9083		.4417	1.716	1.06	1.047	1.185		1.02	.5207	
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N											1			
		MEAN											4.7			
		STD														
PAPOOSE ISLAND	HERRING GULL	N											1			
		MEAN											7.8			
		STD														
SILVER ISLET	HERRING GULL	N	2		10		10									
		MEAN	7.55		8.16		9.23									
		STD	.0707		.9082		0.779									
GULL ISLAND	HERRING GULL	N											2			1
		MEAN											8.85			6.7
		STD											.6364			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE SUPERIOR

			YEAR	
			87	88
AGAWA ROCK	HERRING GULL	N	1	1
		MEAN	9.2	9.6
		STD		
GRANITE ISLAND	HERRING GULL	N	1	1
		MEAN	8.9	9
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PERCENT LIPID IN EGG, LAKE SUPERIOR

			YEAR													
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
KNIFE ISLAND	HERRING GULL	N											1			
		MEAN											8.3			
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ARSENIC, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR
			77
SNAKE ISLAND	HERRING GULL	N	10
		MEAN	0.015
		STD	0
MUGG'S ISLAND	HERRING GULL	N	10
		MEAN	.0213
		STD	.0133

ARSENIC, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			77
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1
		MEAN	0.015
		STD	
MIDDLE ISLAND	HERRING GULL	N	1
		MEAN	0.015
		STD	

ARSENIC, LAKE HURON

			YEAR
			77
CHANTRY ISLAND	HERRING GULL	N	1
		MEAN	0.015
		STD	
DOUBLE ISLAND	HERRING GULL	N	1
		MEAN	0.015
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ARSENIC, LAKE MICHIGAN

			YEAR
			77
HAT ISLAND	HERRING GULL	N	1
		MEAN	0.015
		STD	
LITTLE SISTER ISLAND	HERRING GULL	N	1
		MEAN	0.015
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

CADMIUM, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR
			77
SNAKE ISLAND	HERRING GULL	N	10
		MEAN	.0155
		STD	.0332
MUGG'S ISLAND	HERRING GULL	N	10
		MEAN	.0057
		STD	.0022

CADMIUM, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			77
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1
		MEAN	0.011
		STD	
MIDDLE ISLAND	HERRING GULL	N	1
		MEAN	0.011
		STD	

CADMIUM, LAKE HURON

			YEAR
			77
CHANTRY ISLAND	HERRING GULL	N	1
		MEAN	0.015
		STD	
DOUBLE ISLAND	HERRING GULL	N	1
		MEAN	0.005
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

CADMIUM, LAKE MICHIGAN

			YEAR
			77
HAT ISLAND	HERRING GULL	N	1
		MEAN	0.005
		STD	
LITTLE SISTER ISLAND	HERRING GULL	N	1
		MEAN	0.017
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-CHLORDANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			76	77	78	79	80	81	82	83	84	85	86	87	88
STRACHAN ISLAND	HERRING GULL	N											1		1
		MEAN											0.005		.0073
		STD													
SNAKE ISLAND	HERRING GULL	N		10		10	10	10	1	11	10	10	10	1	1
		MEAN		0.047		0.108	0.078	0.221	0.02	.0123	.0087	.0105	.0033	.0016	.0112
		STD		.0236		.0405	.0437	0.1		.0052	.0049	.0037	.0034		
PIGEON ISLAND	HERRING GULL	N						10	8						
		MEAN						0.272	.0262						
		STD						.1209	.0074						
	BLACK-CROWNED NIGHT-HERON	N							11						
		MEAN							.0214						
		STD							.0158						
LITTLE GALLOO ISLAND	HERRING GULL	N						10	10						
		MEAN						0.201	0.021						
		STD						.0538	.0057						
	BLACK-CROWNED NIGHT-HERON	N							1						
		MEAN							0.02						
		STD													
SCOTCH BONNET ISLAND	HERRING GULL	N	15		8				1						
		MEAN	.1533		0.205				0.02						
		STD	.1236		.0657										
GULL ISLAND PRESQU'ILE	HERRING GULL	N	5	4	19		11		10						
		MEAN	.0082	0.2	.2158		.0155		0.017						
		STD	.0081	0.092	.1029		.0069		.0067						
LESLIE ST. SPIT	HERRING GULL	N			3										1
		MEAN			.1433										.0145
		STD			.0473										
MUGG'S ISLAND	HERRING GULL	N		9	2	8	9	10	9	11	10	10	10	1	
		MEAN		.0289	0.125	.1238	.1044	0.193	.0189	.0114	.0135	0.017	.0113	0.006	
		STD		.0078	.0495	0.035	.0413	0.057	.0136	.0045	0.01	.0125	.0055		
	RING-BILLED GULL	N				14									
		MEAN				.0671									
		STD				.0432									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-CHLORDANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
HAMILTON HARBOUR	HERRING GULL	N						10	1		1		1	1	
		MEAN						0.335	0.02		0.02		0.013	.0121	
		STD						.0768							
	RING-BILLED GULL	N													
		MEAN									10				
		STD									0.061				
											.0929				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-CHLORDANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR										
			77	79	80	81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N		10		10	1	11	10	10	10	1	1
		MEAN		0.118		0.178	0.02	.0175	0.015	0.013	0.01	.0074	.0246
		STD		.0464		.0547		.0086	.0071	.0067	.0041		
	BLACK-CROWNED NIGHT-HERON	N					1				1		
		MEAN					0.01				0.026		
		STD											
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	10	9	10	1	11	10	10	1	10	1
		MEAN	0.02	0.123	0.11	0.291	0.03	.0109	0.021	0.022	0.009	.0122	.0122
		STD	.0047	.0254	.0415	.0987		0.003	.0057	.0063		.0077	
LONG POINT PROVINCIAL PARK	FORSTER'S TERN	N									1		
		MEAN									0.025		
		STD											
SANDUSKY TURNING POINT	HERRING GULL	N		10									
		MEAN		0.165									
		STD		.0484									
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	1	10	1
		MEAN	0.026	0.162	0.08	0.239	0.023	0.013	0.016	.0155	0.016	.0107	.0214
		STD	.0117	0.041	.0236	.0755	.0082	.0048	0.007	.0076		.0025	
	BLACK-CROWNED NIGHT-HERON	N					10				1		
		MEAN					.0135				0.01		
		STD					.0137						
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N		10				1					
		MEAN		.0425				0.01					
		STD		.0408									
FIGHTING ISLAND	HERRING GULL	N		10		10	20	11	10	10	1	10	1
		MEAN		0.105		0.28	0.024	.0145	0.017	.0105	0.008	.0076	.0174
		STD		.0299		.1743	.0182	.0069	.0048	.0072		.0036	
	COMMON TERN	N		3									
		MEAN		.0267									
		STD		.0115									
	RING-BILLED GULL	N		2					10				
		MEAN		0.04					0.02				
		STD		.0424					.0067				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-CHLORDANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR									
			77	79	80	81	82	83	84	85	86	87	88
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N									1		
		MEAN									0.012		
		STD											
	FORSTER'S TERN	N									1		
		MEAN									0.028		
		STD											
ST. CLAIR RIVER	HERRING GULL	N										1	
		MEAN										.0132	
		STD											

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-CHLORDANE, LAKE HURON

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N		10	5	10	10	10	3	11	10	10	1	1	13
		MEAN		0.061	0.14	0.087	0.084	0.187	.0167	0.005	0.01	0.012	0.012	.0016	.0174
		STD		.0354	0.098	.0291	.0255	.0678	.0115	.0034	.0041	.0059			.0093
CHANNEL SHELTER ISLAND	HERRING GULL	N						10	10	11	10	10	1	1	16
		MEAN						0.161	0.024	.0109	0.013	0.017	0.02	.0118	.0127
		STD						.0674	.0117	0.003	.0048	.0095			.0056
SOUTH LIMESTONE ISLAND	HERRING GULL	N	2												
		MEAN	0.125												
		STD	.0212												
DOUBLE ISLAND	HERRING GULL	N		10		10	10	10	10	11	10	10	1	1	13
		MEAN		0.042		0.095	0.063	0.174	0.012	.0109	0.01	0.016	0.01	.0036	.0154
		STD		.0181		.0317	.0283	.0712	.0042	.0049		.0107			.0059
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				9									
		MEAN				.0256									
		STD				.0151									
PUMPKIN POINT	HERRING GULL	N										10	1		
		MEAN										0.012	.0005		
		STD										.0075			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-CHLORDANE, LAKE MICHIGAN

			YEAR										
			76	77	78	79	80	82	83	84	85	86	87	88
HAT ISLAND	HERRING GULL	N		9										
		MEAN		.2011										
		STD		.1152										
GULL ISLAND	HERRING GULL	N			4	10	10	10	11	10	9		1	1
		MEAN			0.19	0.177	0.184	0.041	.0309	0.021	.0222		.0167	.0259
		STD			.0783	.1088	.0919	.0088	.0122	.0074	.0097			
BELLOWS ISLAND	HERRING GULL	N			6									
		MEAN			.2417									
		STD			0.088									
TROUT ISLAND	HERRING GULL	N										1		
		MEAN										0.039		
		STD												
FISH ISLAND	HERRING GULL	N								1				
		MEAN								0.02				
		STD												
GRAVEL ISLAND	HERRING GULL	N								1				
		MEAN								0.04				
		STD												
SPIDER ISLAND	HERRING GULL	N								1				
		MEAN								0.03				
		STD												
LITTLE SISTER ISLAND	HERRING GULL	N		10										
		MEAN		0.143										
		STD		.0495										
BIG SISTER ISLAND	HERRING GULL	N	10		10	10	10	10	10	10	10	1	1	1
		MEAN	0.213		0.232	0.193	0.13	0.026	0.019	0.04	0.041	0.014	.0258	.0095
		STD	.0769		.1729	.1505	.0429	.0097	.0032	.0094	.0099			
HAT ISLAND GREEN BAY	HERRING GULL	N								1				
		MEAN								0.02				
		STD												

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-CHLORDANE, LAKE SUPERIOR

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
HAMMAINSE HARBOUR	HERRING GULL	N		10	5										
		MEAN		0.031	0.068										
		STD		.0218	.0858										
AGAWA ROCK	HERRING GULL	N			7	10	9	10	7	11	10	10	1	1	1
		MEAN			0.12	0.152	.0867	0.204	.0229	.0141	0.019	0.015	0.006	.0016	.0146
		STD			.0872	0.06	.0132	.0643	.0138	.0058	.0088	.0053			
GRANITE ISLAND	HERRING GULL	N	10		2	10	10	10	9		10	10	1	1	1
		MEAN	0.02		0.07	0.169	0.121	0.221	.0156		0.018	0.03	0.008	.0107	.0138
		STD	.0067			0.061	.0498	.0553	.0053		.0079	.0082			
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N								1					
		MEAN								0.01					
		STD													
SILVER ISLET	HERRING GULL	N		10											
		MEAN		0.021											
		STD		.0074											
GULL ISLAND	HERRING GULL	N								1					
		MEAN								0.01					
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-CHLORDANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR							
			80	81	82	83	84	85	87	88
STRACHAN ISLAND	HERRING GULL	N								1
		MEAN								.0013
		STD								
SNAKE ISLAND	HERRING GULL	N			10	11	10	10	1	1
		MEAN			.0095	.0034	.0085	0.003	.0016	.0013
		STD			.0016	.0013	.0078	.0011		
PIGEON ISLAND	HERRING GULL	N		2	10					
		MEAN		0.12	0.011					
		STD		.0283	.0032					
	BLACK-CROWNED NIGHT-HERON	N			12					
		MEAN			.0075					
		STD			.0032					
LITTLE GALLOO ISLAND	HERRING GULL	N		9	10					
		MEAN		.0005	.0095					
		STD			.0016					
	BLACK-CROWNED NIGHT-HERON	N			1					
		MEAN			0.005					
		STD								
SCOTCH BONNET ISLAND	HERRING GULL	N			1					
		MEAN			0.01					
		STD								
GULL ISLAND PRESQU'ILE	HERRING GULL	N	11		10					
		MEAN	.0218		0.012					
		STD	0.006		.0042					
LESLIE ST. SPIT	HERRING GULL	N								1
		MEAN								.0013
		STD								
MUGG'S ISLAND	HERRING GULL	N			9	11	10	10	1	
		MEAN			.0094	.0027	.0055	0.004	.0016	
		STD			.0017	.0008	.0016	.0013		
HAMILTON HARBOUR	HERRING GULL	N		7	1		1		1	
		MEAN		.0829	0.01		0.05		.0016	
		STD		0.015						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-CHLORDANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR							
			80	81	82	83	84	85	87	88
HAMILTON HARBOUR	RING-BILLED GULL	N					10			
		MEAN					.0287			
		STD					.0646			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-CHLORDANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR						
			81	82	83	84	85	87	88
NIAGARA RIVER	HERRING GULL	N	5	1	11	10	10	1	1
		MEAN	.0104	0.01	.0036	.0065	.0055	.0016	.0013
		STD	.0221		.0013	.0024	.0016		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1	11	10	10	10	1
		MEAN	.0871	0.01	.0025	.0065	.0073	.0016	.0013
		STD	.0664		0	.0024	0.003	0	
MIDDLE ISLAND	HERRING GULL	N	7	10	10	10	10	10	1
		MEAN	.0516	0.012	0.003	.0125	0.005	.0014	.0013
		STD	.0356	.0042	.0011	.0134	0	.0003	
	BLACK-CROWNED NIGHT-HERON	N		10					
		MEAN		.0048					
		STD		.0036					
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N			1				
		MEAN			0.005				
		STD							
FIGHTING ISLAND	HERRING GULL	N	7	20	11	10	10	10	1
		MEAN	.1258	0.009	.0025	.0275	.0052	.0017	.0013
		STD	.1159	.0025	0	0.026	.0018	0	
	RING-BILLED GULL	N				10			
		MEAN				.0045			
		STD				.0011			
ST. CLAIR RIVER	HERRING GULL	N						1	
		MEAN						.0016	
		STD							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-CHLORDANE, LAKE HURON

			YEAR						
			81	82	83	84	85	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	11	10	10	1	13
		MEAN	.0571	.0105	.0034	.0125	.0045	.0017	.0008
		STD	.0297	.0037	.0023	0.013	.0011		.0008
	BLACK-CROWNED NIGHT-HERON	N		1					
		MEAN		0.005					
		STD							
CHANNEL SHELTER ISLAND	HERRING GULL	N	2	8	11	10	10	1	16
		MEAN	.0452	.0363	.0032	.0075	0.005	.0016	.0012
		STD	.0633	.0185	.0012	.0026	0		
DOUBLE ISLAND	HERRING GULL	N	5	10	11	10	10	1	13
		MEAN	0.074	.0095	.0025	.0055	.0052	.0017	.0013
		STD	.0365	.0016	0	.0016	.0018		0
PUMPKIN POINT	HERRING GULL	N					10		
		MEAN					.0055		
		STD					.0016		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-CHLORDANE, LAKE MICHIGAN

			YEAR					
			82	83	84	85	87	88
GULL ISLAND	HERRING GULL	N	10	11	10	9	1	1
		MEAN	0.019	.0039	0.048	.0067	.0016	.0012
		STD	.0074	.0013	.0289	.0025		
FISH ISLAND	HERRING GULL	N			1			
		MEAN			0.005			
		STD						
GRAVEL ISLAND	HERRING GULL	N			1			
		MEAN			0.01			
		STD						
SPIDER ISLAND	HERRING GULL	N			1			
		MEAN			0.01			
		STD						
BIG SISTER ISLAND	HERRING GULL	N	10	10	10	10	1	1
		MEAN	.0105	.0035	.0095	0.013	.0013	.0004
		STD	.0037	.0013	.0016	.0067		
HAT ISLAND GREEN BAY	HERRING GULL	N			1			
		MEAN			0.005			
		STD						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-CHLORDANE, LAKE SUPERIOR

			YEAR						
			81	82	83	84	85	87	88
AGAWA ROCK	HERRING GULL	N	1	10	11	10	10	1	1
		MEAN	0.04	0.009	.0039	0.028	.0045	.0016	.0013
		STD		.0021	.0013	.0197	.0011		
GRANITE ISLAND	HERRING GULL	N	8	10		10	10	1	1
		MEAN	.0689	.0095		.0273	.0097	.0016	.0012
		STD	.0495	.0016		.0189	.0045		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N			1				
		MEAN			0.005				
		STD							
GULL ISLAND	HERRING GULL	N			1				
		MEAN			0.005				
		STD							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OXY-CHLORDANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
STRACHAN ISLAND	HERRING GULL	N											1		1
		MEAN											0.126		.1044
		STD													
SNAKE ISLAND	HERRING GULL	N		10	10	10	10	10	10	11	10	10	10	1	1
		MEAN		.2040	0.149	0.152	0.157	0.26	0.27	.2155	0.22	0.16	.1267	.1204	.1562
		STD		.1023	0.052	.0766	0.079	.1452	.1115	.0372	.0938	.0523	.0636		
PIGEON ISLAND	HERRING GULL	N						10	10						
		MEAN						0.222	0.309						
		STD						.0694	.1212						
	BLACK-CROWNED NIGHT-HERON	N							12						
		MEAN							.1658						
		STD							.1384						
LITTLE GALLOO ISLAND	HERRING GULL	N						10	10						
		MEAN						0.202	0.286						
		STD						.0725	0.186						
	BLACK-CROWNED NIGHT-HERON	N							1						
		MEAN							0.11						
		STD													
SCOTCH BONNET ISLAND	HERRING GULL	N	15		8				1						
		MEAN	.2399		.4238				0.58						
		STD	.1896		.2075										
GULL ISLAND PRESQU'ILE	HERRING GULL	N	5	4	19		11		10						
		MEAN	.0364	.1583	.3584		.2927		0.428						
		STD	.0418	.0266	.1982		.1239		0.151						
LESLIE ST. SPIT	HERRING GULL	N			4										1
		MEAN			.1975										.1391
		STD			.1024										
MUGG'S ISLAND	HERRING GULL	N		9	4	8	9	10	9	11	10	10	10	1	
		MEAN		.1578	.2025	0.255	.2467	0.272	.3622	0.17	0.2	0.169	.1513	0.114	
		STD		.0632	.0754	.1732	.1697	.2347	.1431	.0522	.0688	.0582	.0325		
	RING-BILLED GULL	N				24									
		MEAN				.0758									
		STD				.0418									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OXY-CHLORDANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
HAMILTON HARBOUR	HERRING GULL	N						10	1		1		1	1	
		MEAN						0.329	0.3		0.18		0.146	.1012	
		STD						.2156							
	RING-BILLED GULL	N									10				
		MEAN									0.095				
		STD									0.045				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OXY-CHLORDANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR										
			77	78	79	80	81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N			10		10	1	11	10	10	10	1	1
		MEAN			0.125		0.17	0.15	0.2	0.185	0.13	.1382	.1018	.0014
		STD			.0372		.0829		.0631	.0853	.0403	.0397		
	BLACK-CROWNED NIGHT-HERON	N						1				1		
		MEAN						0.14				0.127		
		STD												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	10	10	9	10	1	11	10	10	1	10	1
		MEAN	.1380	0.122	0.099	.1167	0.131	0.34	.1573	0.226	0.17	0.15	.0998	.1084
		STD	.1169	.0322	.0378	0.066	.0398		.0771	.1361	.0963		.0449	
MOHAWK ISLAND	HERRING GULL	N		10										
		MEAN		0.158										
		STD		.1186										
LONG POINT PROVINCIAL PARK	FORSTER'S TERN	N												
		MEAN										1		
		STD										0.038		
SANDUSKY TURNING POINT	HERRING GULL	N			10									
		MEAN			0.142									
		STD			.0804									
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	10	1	10	1
		MEAN	.2170	0.105	0.12	0.118	0.098	0.153	0.133	0.171	0.152	0.172	.0962	.1275
		STD	.1129	.0517	.0682	.0391	.0301	.0631	.0512	.0615	.0385		.0561	
	BLACK-CROWNED NIGHT-HERON	N						10				1		
		MEAN						0.123				0.035		
		STD						.1141						
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N			9				1					
		MEAN			.0656				0.09					
		STD			.0296									
MIDDLE SISTER ISLAND	HERRING GULL	N		44										
		MEAN		.1341										
		STD		.0601										
FIGHTING ISLAND	HERRING GULL	N		11	44		10	20	11	10	10	1	10	1
		MEAN		.1964	0.162		0.123	.1695	.1773	0.209	0.124	0.09	.1081	.1087
		STD		.1082	0.103		.0313	.0926	.0694	.0667	.0696		.0456	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OXY-CHLORDANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR											
			77	78	79	80	81	82	83	84	85	86	87	88
FIGHTING ISLAND	COMMON TERN	N			10									
		MEAN			0.019									
		STD			.0057									
	RING-BILLED GULL	N			6					10				
		MEAN			.0317					0.062				
		STD			.0098					.0266				
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N										1		
		MEAN										0.057		
		STD												
	FORSTER'S TERN	N										1		
		MEAN										0.044		
		STD												
ST. CLAIR RIVER	HERRING GULL	N											1	
		MEAN											.1385	
		STD												

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OXY-CHLORDANE, LAKE HURON

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N		10	15	10	10	10	10	11	10	10	1	1	13
		MEAN		.2950	.1753	0.117	0.097	0.15	0.263	.1764	0.132	0.166	0.182	.0803	.1269
		STD		.1112	.0838	.0638	.0291	.0485	.1264	.0465	.0471	.0779			.1734
	BLACK-CROWNED NIGHT-HERON	N							1						
		MEAN							0.15						
		STD													
CHANNEL SHELTER ISLAND	HERRING GULL	N						10	10	11	10	10	1	1	16
		MEAN						0.121	0.244	.1445	0.162	0.137	0.152	.1321	.1418
		STD						.0407	.1871	.0383	.0692	.0544			.0627
SOUTH LIMESTONE ISLAND	HERRING GULL	N	2												
		MEAN	0.342												
		STD	.0764												
DOUBLE ISLAND	HERRING GULL	N		10	10	10	10	10	10	11	10	10	1	1	13
		MEAN		.3580	0.166	0.113	0.084	0.129	0.244	.2218	0.136	0.222	0.129	.1051	.1347
		STD		.3309	.0911	.0807	.0608	.0412	.1137	.1735	.0443	.1163			.1077
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				9									
		MEAN				.0533									
		STD				.0187									
PUMPKIN POINT	HERRING GULL	N										10	1		
		MEAN										0.168	0.201		
		STD										0.114			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OXY-CHLORDANE, LAKE MICHIGAN

			YEAR												
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
HAT ISLAND	HERRING GULL	N				9										
		MEAN				1.234										
		STD				.9891										
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10	9		1	1
		MEAN					0.599	0.568	0.595	0.726	0.56	0.274	.2244		.2917	.3376
		STD					0.36	0.209	.2725	.3059	0.196	.0911	.0557			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					0.614									
		STD					.5417									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												0.361		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										0.31				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										0.45				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										0.41				
		STD														
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				1.028										
		STD				.3256										
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	10	1	1	1
		MEAN	0.62	0.723	0.648		0.561	0.518	0.609	0.879	0.487	0.429	0.34	0.292	.5388	.1445
		STD	.2704	.3351	.2371		.3903	.2616	.2731	0.523	0.178	.1818	.1732			
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										0.39				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OXY-CHLORDANE, LAKE SUPERIOR

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
CHENE ISLAND	HERRING GULL	N								1					
		MEAN								0.134					
		STD													
MAMMAINSE HARBOUR	HERRING GULL	N		10	8										
		MEAN		.3530	.3675										
		STD		.0874	.3819										
AGAWA ROCK	HERRING GULL	N			10	10	10	10	10	12	10	10	1	1	1
		MEAN			0.277	0.438	0.23	0.28	0.336	.2678	0.208	0.199	0.219	0.172	.1628
		STD			.1676	.3346	.2529	.1511	.1794	0.114	.0567	.1124			
LEADMAN ISLANDS	HERRING GULL	N								1					
		MEAN								0.228					
		STD													
HURON ISLAND	HERRING GULL	N								1					
		MEAN								0.194					
		STD													
LAKE LINDEN	HERRING GULL	N								1					
		MEAN								0.228					
		STD													
GRANITE ISLAND	HERRING GULL	N	10		10	10	10	10	10		10	10	1	1	1
		MEAN	0.063		0.255	0.406	0.177	0.197	0.335		0.179	0.18	0.238	.1864	.2291
		STD	.0331		.1322	.2902	.0833	.0763	.1531		.0438	.0492			
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N								1					
		MEAN								0.12					
		STD													
PAPOOSE ISLAND	HERRING GULL	N								1					
		MEAN								0.258					
		STD													
SILVER ISLET	HERRING GULL	N		10											
		MEAN		.2610											
		STD		.1540											
GULL ISLAND	HERRING GULL	N								2					
		MEAN								.4005					
		STD								.1124					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OXY-CHLORDANE, LAKE SUPERIOR

			YEAR										
			76	77	78	79	80	81	82	83	84	85	86	87	88
KNIFE ISLAND	HERRING GULL	N								1					
		MEAN								0.288					
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR
			79
SNAKE ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0
MUGG'S ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123-CHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			79
NIAGARA RIVER	HERRING GULL	N	10
		MEAN	.0063
		STD	.0062
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10
		MEAN	.0029
		STD	0.006
SANDUSKY TURNING POINT	HERRING GULL	N	10
		MEAN	.0037
		STD	0.003
MIDDLE ISLAND	HERRING GULL	N	10
		MEAN	.0022
		STD	.0033
FIGHTING ISLAND	HERRING GULL	N	10
		MEAN	.0087
		STD	.0048

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123-CHLOROBENZENE, LAKE HURON

			YEAR
			79
CHANTRY ISLAND	HERRING GULL	N	10
		MEAN	.0037
		STD	.0032
DOUBLE ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123-CHLOROBENZENE, LAKE SUPERIOR

			YEAR
			79
AGAWA ROCK	HERRING GULL	N	10
		MEAN	0.001
		STD	0
GRANITE ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

124-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR
			79
SNAKE ISLAND	HERRING GULL	N	10
		MEAN	.0023
		STD	.0021
MUGG'S ISLAND	HERRING GULL	N	10
		MEAN	.0037
		STD	.0028

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

124-CHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			79
NIAGARA RIVER	HERRING GULL	N	10
		MEAN	.0212
		STD	.0236
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10
		MEAN	.0046
		STD	.0053
SANDUSKY TURNING POINT	HERRING GULL	N	10
		MEAN	.0158
		STD	.0067
MIDDLE ISLAND	HERRING GULL	N	10
		MEAN	.0063
		STD	.0037
FIGHTING ISLAND	HERRING GULL	N	10
		MEAN	.0087
		STD	.0038

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

124-CHLOROBENZENE, LAKE HURON

			YEAR
			79
CHANTRY ISLAND	HERRING GULL	N	10
		MEAN	.0122
		STD	.0079
DOUBLE ISLAND	HERRING GULL	N	10
		MEAN	.0032
		STD	.0022

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

124-CHLOROBENZENE, LAKE SUPERIOR

			YEAR
			79
AGAWA ROCK	HERRING GULL	N	10
		MEAN	.0049
		STD	.0027
GRANITE ISLAND	HERRING GULL	N	10
		MEAN	.0054
		STD	.0023

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

135-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR
			79
SNAKE ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0
MUGG'S ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

135-CHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			79
NIAGARA RIVER	HERRING GULL	N	10
		MEAN	0.001
		STD	0
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10
		MEAN	0.001
		STD	0
SANDUSKY TURNING POINT	HERRING GULL	N	10
		MEAN	0.001
		STD	0
MIDDLE ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0
FIGHTING ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

135-CHLOROBENZENE, LAKE HURON

			YEAR
			79
CHANTRY ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0
DOUBLE ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

135-CHLOROBENZENE, LAKE SUPERIOR

			YEAR
			79
AGAWA ROCK	HERRING GULL	N	10
		MEAN	0.001
		STD	0
GRANITE ISLAND	HERRING GULL	N	10
		MEAN	0.001
		STD	0

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR								
			79	80	81	82	83	84	85	87	88
STRACHAN ISLAND	HERRING GULL	N									1
		MEAN									.0175
		STD									
SNAKE ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	1
		MEAN	0.006	.0071	.0014	.0042	.0012	.0005	.0017	.0176	.0175
		STD	.0038	.0072	0.002	0.002	.0012	0	.0013		
PIGEON ISLAND	HERRING GULL	N			10	10					
		MEAN			0.005	.0051					
		STD			.0035	.0025					
	DOUBLE-CRESTED CORMORANT	N			10						
		MEAN			.0005						
		STD			0						
	CASPIAN TERN	N			8						
		MEAN			.0009						
		STD			.0012						
	BLACK-CROWNED NIGHT-HERON	N				12					
		MEAN				.0005					
		STD				.0008					
LITTLE GALLOO ISLAND	HERRING GULL	N			10	10					
		MEAN			.0091	.0061					
		STD			.0012	.0022					
	DOUBLE-CRESTED CORMORANT	N			10						
		MEAN			.0039						
		STD			.0106						
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				.0003					
		STD									
SCOTCH BONNET ISLAND	HERRING GULL	N				1					
		MEAN				0.005					
		STD									
GULL ISLAND PRESQU'ILE	HERRING GULL	N				10					
		MEAN				.0029					
		STD				.0034					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR								
			79	80	81	82	83	84	85	87	88
LESLIE ST. SPIT	HERRING GULL	N									1
		MEAN									.0175
		STD									
MUGG'S ISLAND	HERRING GULL	N	10	9	10	9	11	10	10	1	
		MEAN	.0082	.0068	0.009	.0039	.0033	.0033	.0005	.0176	
		STD	0.003	.0037	0.009	.0034	.0024	0.002	.0005		
HAMILTON HARBOUR	HERRING GULL	N			10	1		1		1	
		MEAN			.0059	0.003		0.022		.0176	
		STD			.0014						
	RING-BILLED GULL	N						10			
		MEAN						.0005			
		STD						0			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234-CHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR								
			79	80	81	82	83	84	85	87	88
NIAGARA RIVER	HERRING GULL	N	10		10	1	11	10	10	1	1
		MEAN	.0527		.0434	0.01	.0031	.0118	.0094	.0176	.0175
		STD	.0791		.0734		.0024	.0106	.0078		
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				0.01					
		STD									
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	9	10	1	11	10	10	10	1
		MEAN	.0047	.0108	.0014	0.004	.0026	0.005	.0008	.0176	.0175
		STD	.0036	.0242	.0019		0.004	0.011	.0015	0	
SANDUSKY TURNING POINT	HERRING GULL	N	10								
		MEAN	.0046								
		STD	.0021								
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	1
		MEAN	.0053	.0008	.0015	.0025	.0007	.0005	.0027	.0202	.0175
		STD	.0031	.0008	.0024	.0018	.0005	0	.0071	.0027	
	BLACK-CROWNED NIGHT-HERON	N				10					
		MEAN				.0003					
		STD				0					
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N			10		1				
		MEAN			.0005		.0005				
		STD			0						
FIGHTING ISLAND	HERRING GULL	N	10		10	20	11	10	10	10	1
		MEAN	.0142		.0047	.0128	.0161	.0059	.0032	.0176	.0175
		STD	.0055		.0055	.0073	.0183	.0014	.0019	0	
	RING-BILLED GULL	N						10			
		MEAN						.0007			
		STD						.0006			
ST. CLAIR RIVER	HERRING GULL	N								1	
		MEAN								.0176	
		STD									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234-CHLOROBENZENE, LAKE HURON

			YEAR								
			79	80	81	82	83	84	85	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	13
		MEAN	.0061	.0014	.0006	.0034	.0015	.0037	.0038	.0176	.0035
		STD	.0048	.0019	.0002	0.003	.0023	.0078	.0066		0
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				.0003					
		STD									
MANITOBA REEF	HERRING GULL	N		10							
		MEAN		.0756							
		STD		.2348							
BLACK RIVER	HERRING GULL	N		10							
		MEAN		.0169							
		STD		.0325							
LITTLE CHARITY ISLAND	HERRING GULL	N		10							
		MEAN		.1242							
		STD		.1827							
CHANNEL SHELTER ISLAND	HERRING GULL	N		10	10	10	11	10	10	1	16
		MEAN		.5717	1.749	.0005	0.788	.3859	.7291	.1151	.2828
		STD		.3366	.5595	0	.3802	0.096	.3036		.1242
NOTTAWASAGA ISLAND	HERRING GULL	N		10							
		MEAN		.0043							
		STD		.0027							
SOUTH LIMESTONE ISLAND	CASPIAN TERN	N		10							
		MEAN		.0029							
		STD		.0074							
CASTLE ROCK	HERRING GULL	N		10							
		MEAN		0.001							
		STD		.0014							
HALF MOON ISLAND	CASPIAN TERN	N		9							
		MEAN		.0023							
		STD		.0033							
THE COUSINS ISLAND	CASPIAN TERN	N		10							
		MEAN		.0016							
		STD		.0033							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234-CHLOROBENZENE, LAKE HURON

			YEAR								
			79	80	81	82	83	84	85	87	88
DOUBLE ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	13
		MEAN	.0057	.0023	0.003	.0012	.0176	.0172	.0013	.0176	0.011
		STD	0.006	.0038	.0058	.0007	.0352	.0451	.0015		.0085
PUMPKIN POINT	HERRING GULL	N		10					10		
		MEAN		.0063					.0251		
		STD		.0068					.0529		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234-CHLOROBENZENE, LAKE MICHIGAN

			YEAR								
			71	73	76	80	82	83	84	85	87	88
ISLE AUX GALETS	CASPIAN TERN	N				9						
		MEAN				.0005						
		STD				0						
HAT ISLAND	CASPIAN TERN	N				9						
		MEAN				.0005						
		STD				0						
GULL ISLAND	HERRING GULL	N				10	10	11	10	9	1	1
		MEAN				.0141	.0046	.0112	.0005	.0219	.0176	.0169
		STD				.0398	.0039	.0231	0	.0649		
FISH ISLAND	HERRING GULL	N							1			
		MEAN							0.005			
		STD										
GRAVEL ISLAND	HERRING GULL	N							1			
		MEAN							0.005			
		STD										
SPIDER ISLAND	HERRING GULL	N							1			
		MEAN							0.002			
		STD										
GRAVELLY ISLAND	CASPIAN TERN	N				10						
		MEAN				.0188						
		STD				.0514						
BIG SISTER ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	1	1
		MEAN	.0298	.0046	.0158	.0008	0.002	.0013	0.01	.0221	.0169	.0111
		STD	.0503	.0064	.0262	.0008	.0007	.0008	.0191	.0505		
HAT ISLAND GREEN BAY	HERRING GULL	N							1			
		MEAN							0.001			
		STD										

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234-CHLOROBENZENE, LAKE SUPERIOR

			YEAR								
			79	80	81	82	83	84	85	87	88
AGAWA ROCK	HERRING GULL	N	10	10	10	10	11	10	10	1	1
		MEAN	.0077	.0069	.0057	.0081	0.002	.0094	.0007	.0176	.0175
		STD	0.005	0.007	.0063	.0129	.0019	.0234	.0004		
GRANITE ISLAND	HERRING GULL	N	10	10	10	10		10	10	1	1
		MEAN	.0072	.0096	.0232	.0042		.0029	.0724	.0176	.0169
		STD	.0095	.0179	.0702	.0047		.0074	.0819		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N					1				
		MEAN					.0005				
		STD									
GULL ISLAND	HERRING GULL	N					1				
		MEAN					0.024				
		STD									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1235-/ 1245-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR								
			79	80	81	82	83	84	85	87	88
STRACHAN ISLAND	HERRING GULL	N									1
		MEAN									.0237
		STD									
SNAKE ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	1
		MEAN	.0063	0.005	.0005	.0045	.0015	.005	.0017	.0266	.0237
		STD	.0051	.0037	0	.0024	.0017	.0071	.0013		
PIGEON ISLAND	HERRING GULL	N			10	10					
		MEAN			0.003	.0042					
		STD			0.004	0.002					
	DOUBLE-CRESTED CORMORANT	N			10						
		MEAN			.0005						
		STD			0						
	CASPIAN TERN	N			8						
		MEAN			.0005						
		STD			0						
	BLACK-CROWNED NIGHT-HERON	N				12					
		MEAN				.0003					
		STD				0					
LITTLE GALLOO ISLAND	HERRING GULL	N			10	10					
		MEAN			.0073	.0069					
		STD			0.004	.0028					
	DOUBLE-CRESTED CORMORANT	N			10						
		MEAN			0.006						
		STD			.0172						
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				.0003					
		STD									
SCOTCH BONNET ISLAND	HERRING GULL	N				1					
		MEAN				0.006					
		STD									
GULL ISLAND PRESQU'ILE	HERRING GULL	N				10					
		MEAN				.0005					
		STD				0					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1235-/ 1245-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR								
			79	80	81	82	83	84	85	87	88
LESLIE ST. SPIT	HERRING GULL	N									1
		MEAN									.0237
		STD									
MUGG'S ISLAND	HERRING GULL	N	10	9	10	9	11	10	10	1	
		MEAN	.0095	0.006	.0081	.0038	.0038	.0026	.0003	0.026	
		STD	.0029	.0037	.0076	.0033	.0028	.0015	0		
HAMILTON HARBOUR	HERRING GULL	N			10	1		1		1	
		MEAN			.0046	0.006		0.004		.0266	
		STD			.0044						
	RING-BILLED GULL	N						10			
		MEAN						.0005			
		STD						0			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1235-/ 1245-CHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR								
			79	80	81	82	83	84	85	87	88
NIAGARA RIVER	HERRING GULL	N	10		10	1	11	10	10	1	1
		MEAN	.0201		.0189	0.009	.0029	.0061	.0034	.0266	.0237
		STD	.0181		0.021		.0025	.0043	.0042		
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				0.006					
		STD									
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	9	10	1	11	10	10	10	1
		MEAN	.0052	.0032	.0005	0.007	0.002	.0027	.0007	.0265	.0237
		STD	.0036	.0045	0		.0027	.0043	.0012	.0002	
SANDUSKY TURNING POINT	HERRING GULL	N	10								
		MEAN	.0102								
		STD	.0028								
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	1
		MEAN	.0117	.0014	0.002	.0037	0.001	.0018	.0014	.0307	.0237
		STD	.0066	.0027	.0032	.0025	.0011	0.002	.0018	.0034	
	BLACK-CROWNED NIGHT-HERON	N				10					
		MEAN				.0003					
		STD				0					
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N			10		1				
		MEAN			.0005		.0005				
		STD			0						
FIGHTING ISLAND	HERRING GULL	N	10		10	20	11	10	10	10	1
		MEAN	.0103		.0005	.0069	.0062	.0057	.0029	.0271	.0237
		STD	.0041		0	.0043	.0023	.0013	.0025	.0008	
	RING-BILLED GULL	N						10			
		MEAN						.0007			
		STD						.0006			
ST. CLAIR RIVER	HERRING GULL	N								1	
		MEAN								.0266	
		STD									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1235-/ 1245-CHLOROBENZENE, LAKE HURON

			YEAR								
			79	80	81	82	83	84	85	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	13
		MEAN	.0068	.0015	0.001	.0047	.0021	.0014	.0006	.0266	.0043
		STD	0.004	0.003	.0014	.0025	0.004	0.002	.0006		0.001
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				.0003					
		STD									
MANITOBA REEF	HERRING GULL	N		10							
		MEAN		0.003							
		STD		.0058							
BLACK RIVER	HERRING GULL	N		10							
		MEAN		.0066							
		STD		0.013							
LITTLE CHARITY ISLAND	HERRING GULL	N		10							
		MEAN		.0485							
		STD		.0419							
CHANNEL SHELTER ISLAND	HERRING GULL	N		10	10	10	11	10	10	1	16
		MEAN		.1762	.4532	.0005	.1392	.0757	.0775	.0266	.0567
		STD		.0831	.1222	0	.0755	.0216	.0371		.0285
NOTTAWASAGA ISLAND	HERRING GULL	N		10							
		MEAN		.0045							
		STD		.0017							
SOUTH LIMESTONE ISLAND	CASPIAN TERN	N		10							
		MEAN		.0014							
		STD		.0027							
CASTLE ROCK	HERRING GULL	N		10							
		MEAN		.0005							
		STD		0							
HALF MOON ISLAND	CASPIAN TERN	N		9							
		MEAN		0.001							
		STD		.0015							
THE COUSINS ISLAND	CASPIAN TERN	N		10							
		MEAN		.0005							
		STD		0							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1235-/ 1245-CHLOROBENZENE, LAKE HURON

			YEAR							
			79	80	81	82	83	84	85	87	88
DOUBLE ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	13
		MEAN	.0073	0.002	.0026	0.002	.0055	.0027	.0015	.0266	.0118
		STD	.0038	.0032	.0045	.0017	.0081	.0068	0.002		
PUMPKIN POINT	HERRING GULL	N		10					10		
		MEAN		0.005					.0027		
		STD		.0041					.0052		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1235-/ 1245-CHLOROBENZENE, LAKE MICHIGAN

			YEAR									
			71	73	76	80	82	83	84	85	87	88
ISLE AUX GALETS	CASPIAN TERN	N				9						
		MEAN				.0005						
		STD				0						
HAT ISLAND	CASPIAN TERN	N				9						
		MEAN				.0005						
		STD				0						
GULL ISLAND	HERRING GULL	N				10	10	11	10	9	1	1
		MEAN				.0059	.0057	.0026	.0005	.0019	.0266	.0248
		STD				.0136	.0039	.0045	0	.0049		
FISH ISLAND	HERRING GULL	N							1			
		MEAN							0.006			
		STD										
GRAVEL ISLAND	HERRING GULL	N							1			
		MEAN							0.005			
		STD										
SPIDER ISLAND	HERRING GULL	N							1			
		MEAN							0.008			
		STD										
GRAVELLY ISLAND	CASPIAN TERN	N				10						
		MEAN				.0235						
		STD				.0705						
BIG SISTER ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	1	1
		MEAN	.0142	.0024	.0057	0.001	.0044	.0022	.0012	.0026	.0247	.0164
		STD	.0171	.0042	.0089	.0014	.0021	.0018	.0021	.0048		
HAT ISLAND GREEN BAY	HERRING GULL	N							1			
		MEAN							0.005			
		STD										

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1235-/ 1245-CHLOROBENZENE, LAKE SUPERIOR

			YEAR								
			79	80	81	82	83	84	85	87	88
AGAWA ROCK	HERRING GULL	N	10	10	10	10	11	10	10	1	1
		MEAN	.0127	.0056	.0049	.0046	.0023	.0038	.0012	.0266	.0237
		STD	.0088	.0024	.0048	.0038	.0022	0.005	.0013		
GRANITE ISLAND	HERRING GULL	N	10	10	10	10		10	10	1	1
		MEAN	.0096	.0069	.0092	.0049		.0005	.0043	0.026	.0248
		STD	.0069	.0077	.0223	.0028		0	.0063		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N					1				
		MEAN					.0005				
		STD									
GULL ISLAND	HERRING GULL	N					1				
		MEAN					0.006				
		STD									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PENTA-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR								
			79	80	81	82	83	84	85	87	88
STRACHAN ISLAND	HERRING GULL	N									1
		MEAN									.0103
		STD									
SNAKE ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	1
		MEAN	.0218	.0161	.0215	.0172	.0069	.0126	0.008	.0097	.0103
		STD	.0081	.0071	.0076	.0034	.0014	.0046	.0045		
PIGEON ISLAND	HERRING GULL	N			10	10					
		MEAN			.0226	.0187					
		STD			.0087	.0029					
	DOUBLE-CRESTED CORMORANT	N			10						
		MEAN			.0026						
		STD			.0025						
	CASPIAN TERN	N			8						
		MEAN			.0044						
		STD			0.003						
	BLACK-CROWNED NIGHT-HERON	N				12					
		MEAN				.0009					
		STD				.0014					
LITTLE GALLOO ISLAND	HERRING GULL	N			10	10					
		MEAN			.0253	.0199					
		STD			.0084	.0055					
	DOUBLE-CRESTED CORMORANT	N			10						
		MEAN			.0625						
		STD			.1822						
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				0.004					
		STD									
SCOTCH BONNET ISLAND	HERRING GULL	N				1					
		MEAN				0.023					
		STD									
GULL ISLAND PRESQU'ILE	HERRING GULL	N				10					
		MEAN				.0187					
		STD				.0108					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PENTA-CHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR								
			79	80	81	82	83	84	85	87	88
LESLIE ST. SPIT	HERRING GULL	N									1
		MEAN									.0103
		STD									
MUGG'S ISLAND	HERRING GULL	N	10	9	10	9	11	10	10	1	
		MEAN	.0499	.0307	.0391	.0242	.0132	.0137	.0118	.0094	
		STD	.0681	.0242	.0266	.0099	.0084	.0082	0.016		
HAMILTON HARBOUR	HERRING GULL	N			10	1		1		1	
		MEAN			.0248	0.017		0.012		.0097	
		STD			.0062						
	RING-BILLED GULL	N						10			
		MEAN						.0008			
		STD						.0006			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PENTA-CHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR								
			79	80	81	82	83	84	85	87	88
NIAGARA RIVER	HERRING GULL	N	10		10	1	11	10	10	1	1
		MEAN	.0471		.0538	0.02	.0102	.0214	.0103	.0097	.0103
		STD	.0453		.0853		.0043	.0192	.0065		
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				0.013					
		STD									
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	9	10	1	11	10	10	10	1
		MEAN	.0108	.0081	.0128	0.014	.0075	.0075	.0067	.0123	.0103
		STD	0.004	.0023	.0079		0.005	.0042	0.005	.0081	
SANDUSKY TURNING POINT	HERRING GULL	N	10								
		MEAN	.0118								
		STD	.0052								
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	1
		MEAN	.0141	0.008	.0093	.0074	.0046	.0051	.0056	.0098	.0103
		STD	.0032	.0016	.0022	.0025	.0012	.0015	.0028	.0001	
	BLACK-CROWNED NIGHT-HERON	N				10					
		MEAN				.0007					
		STD				.0012					
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N			10		1				
		MEAN			.0024		0.005				
		STD			.0021						
FIGHTING ISLAND	HERRING GULL	N	10		10	20	11	10	10	10	1
		MEAN	.0741		0.027	.0224	.0162	.0266	.0111	.0098	.0103
		STD	.0276		.0081	.0069	0.008	.0101	.0039	.0002	
	RING-BILLED GULL	N						10			
		MEAN						.0049			
		STD						.0027			
ST. CLAIR RIVER	HERRING GULL	N								1	
		MEAN								.0363	
		STD									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PENTA-CHLOROBENZENE, LAKE HURON

			YEAR								
			79	80	81	82	83	84	85	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	13
		MEAN	.0113	.0078	0.007	.0114	.0077	.0085	0.004	.0097	.0031
		STD	.0086	.0041	.0033	.0088	.0036	0.006	.0019		.0018
	BLACK-CROWNED NIGHT-HERON	N				1					
		MEAN				.0003					
		STD									
MANITOBA REEF	HERRING GULL	N		10							
		MEAN		.0949							
		STD		.2889							
BLACK RIVER	HERRING GULL	N		10							
		MEAN		.0134							
		STD		.0157							
LITTLE CHARITY ISLAND	HERRING GULL	N		10							
		MEAN		.0327							
		STD		0.026							
CHANNEL SHELTER ISLAND	HERRING GULL	N		10	10	10	11	10	10	1	16
		MEAN		.0876	.1775	.1197	.1568	.0726	.0685	.0293	.0431
		STD		.0422	0.052	.0485	.0755	.0219	0.029		.0256
NOTTAWASAGA ISLAND	HERRING GULL	N		10							
		MEAN		.0107							
		STD		.0073							
SOUTH LIMESTONE ISLAND	CASPIAN TERN	N		10							
		MEAN		.0022							
		STD		.0024							
CASTLE ROCK	HERRING GULL	N		10							
		MEAN		.0063							
		STD		.0056							
HALF MOON ISLAND	CASPIAN TERN	N		9							
		MEAN		.0023							
		STD		.0024							
THE COUSINS ISLAND	CASPIAN TERN	N		10							
		MEAN		.0038							
		STD		.0053							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PENTA-CHLOROBENZENE, LAKE HURON

			YEAR								
			79	80	81	82	83	84	85	87	88
DOUBLE ISLAND	HERRING GULL	N	10	10	10	10	11	10	10	1	13
		MEAN	.0132	.0056	.0122	.0061	.0098	.0117	.0081	.0097	.0063
		STD	.0068	.0013	.0194	.0026	.0091	.0126	.0125		0.003
PUMPKIN POINT	HERRING GULL	N		10					10		
		MEAN		.0118					.0093		
		STD		.0087					.0131		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PENTA-CHLOROBENZENE, LAKE MICHIGAN

			YEAR								
			71	73	76	80	82	83	84	85	87	88
ISLE AUX GALETS	CASPIAN TERN	N				9						
		MEAN				.0021						
		STD				.0029						
HAT ISLAND	CASPIAN TERN	N				9						
		MEAN				.0039						
		STD				.0088						
GULL ISLAND	HERRING GULL	N				10	10	11	10	9	1	1
		MEAN				.0105	.0183	.0085	.0029	.0041	.0097	.0093
		STD				.0091	.0118	.0055	.0012	.0075		
FISH ISLAND	HERRING GULL	N							1			
		MEAN							0.006			
		STD										
GRAVEL ISLAND	HERRING GULL	N							1			
		MEAN							0.007			
		STD										
SPIDER ISLAND	HERRING GULL	N							1			
		MEAN							0.005			
		STD										
GRAVELLY ISLAND	CASPIAN TERN	N				10						
		MEAN				.1645						
		STD				.5146						
BIG SISTER ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	1	1
		MEAN	.0736	.0131	.0191	0.006	.0051	.0032	0.007	.0048	.0028	.0054
		STD	.1187	.0139	.0217	.0014	.0021	.0009	.0073	.0059		
HAT ISLAND GREEN BAY	HERRING GULL	N							1			
		MEAN							0.006			
		STD										

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PENTA-CHLOROBENZENE, LAKE SUPERIOR

			YEAR								
			79	80	81	82	83	84	85	87	88
AGAWA ROCK	HERRING GULL	N	10	10	10	10	11	10	10	1	1
		MEAN	.0219	.0098	.0136	.0099	.0038	0.007	.0044	.0097	.0103
		STD	.0145	.0043	.0104	.0034	0.003	.0061	.0056		
GRANITE ISLAND	HERRING GULL	N	10	10	10	10		10	10	1	1
		MEAN	.0158	.0097	.0119	.0098		.0025	.0124	.0094	.0093
		STD	.0113	.0079	.0158	.0091		.0022	0.013		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N					1				
		MEAN					0.005				
		STD									
GULL ISLAND	HERRING GULL	N					1				
		MEAN					0.014				
		STD									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SNAKE ISLAND	HERRING GULL	N							10	10	10	10	10	10	11	10
		MEAN							.5030	0.351	0.222	.1547	.2589	.1624	0.091	.1406
		STD							.1060	.1228	.1242	.0778	.1062	.0311	.0447	.0401
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10									
		MEAN			1.154	.5567	.2166									
		STD			.9391	.3883	.2029									
PIGEON ISLAND	HERRING GULL	N		1									10	10		
		MEAN		0.779									.2665	.1779		
		STD											.1151	.0335		
	DOUBLE-CRESTED CORMORANT	N											10			
		MEAN											.0421			
		STD											.0196			
	CASPIAN TERN	N											8			
		MEAN											.0638			
		STD											.0449			
	BLACK-CROWNED NIGHT-HERON	N		1										12		
		MEAN		0.09										.0416		
		STD												.0234		
LITTLE GALLOO ISLAND	HERRING GULL	N											10	10		
		MEAN											.2366	.1035		
		STD											.0826	.0148		
	DOUBLE-CRESTED CORMORANT	N											10			
		MEAN											.1517			
		STD											.3021			
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												0.046		
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N						15		8				1		
		MEAN						.6743		.4825				0.214		
		STD						.5243		.1726						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SCOTCH BONNET ISLAND	DOUBLE-CRESTED CORMORANT	N		7			1									
		MEAN		.1543			0.005									
		STD		.0637												
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	4	19		11		10		
		MEAN						.0046	.3171	.4516		.1964		0.168		
		STD						0.008	.0959	.2108		.0768		.1101		
	COMMON TERN	N					4									
		MEAN					.1375									
		STD					.0866									
LESLIE ST. SPIT	HERRING GULL	N								4						
		MEAN								.2975						
		STD								0.09						
TORONTO ISLANDS	COMMON TERN	N			6											
		MEAN			.1467											
		STD			.0954											
MUGG'S ISLAND	HERRING GULL	N				9	10		10	4	10	9	10	9	11	10
		MEAN				.6038	.4484		.3430	.2675	0.206	.1974	.2305	.1551	.0729	0.106
		STD				.3559	.2642		.0636	0.033	.0752	0.097	.0839	.0541	.0421	.0458
	COMMON TERN	N		5												
		MEAN		0.732												
		STD		.4923												
	RING-BILLED GULL	N									24					
		MEAN									.1192					
		STD									.0466					
HAMILTON HARBOUR	HERRING GULL	N											10	1		1
		MEAN											.2255	0.126		0.065
		STD											.0716			
	COMMON TERN	N	25													
		MEAN	.9512													
		STD	.5752													
	RING-BILLED GULL	N														10
		MEAN														.0436
		STD														.0526

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR			
			85	86	87	88
STRACHAN ISLAND	HERRING GULL	N		1		1
		MEAN		0.052		.0523
		STD				
SNAKE ISLAND	HERRING GULL	N	10	10	1	1
		MEAN	.0781	.0653	.0518	.0859
		STD	0.024	.0239		
LESLIE ST. SPIT	HERRING GULL	N				1
		MEAN				.0527
		STD				
MUGG'S ISLAND	HERRING GULL	N	10	10	1	
		MEAN	.0582	.0682	.0332	
		STD	.0297	.0196		
HAMILTON HARBOUR	HERRING GULL	N		1	1	
		MEAN		0.042	.0438	
		STD				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
NIAGARA RIVER	HERRING GULL	N							10		10	1	11	10	10	10
		MEAN							0.173		.1318	0.117	0.068	.0993	.0532	.0569
		STD							.0514		.0864		.0372	.0416	.0094	.0171
	BLACK-CROWNED NIGHT-HERON	N										1				1
		MEAN										0.061				0.055
		STD														
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	10	10	9	10	1	11	10	10	1
		MEAN			.2052	.1615	.1910	0.089	0.097	.0848	.0848	0.079	.0558	0.062	.0531	0.052
		STD			.0505	.0432	.0314	.0173	0.017	.0231	.0285		.0375	.0169	0.014	
	COMMON TERN	N	4	2												
		MEAN	.0825	0.05												
		STD	.0457	0												
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6												
		MEAN		0.04												
		STD		0.011												
MOHAWK ISLAND	HERRING GULL	N						10								
		MEAN						0.116								
		STD						.0425								
LONG POINT PROVINCIAL PARK	FORSTER'S TERN	N														1
		MEAN														0.017
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N							10							
		MEAN							0.102							
		STD							.0352							
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10	10	10	10	10	10	1
		MEAN			.3762	.2261	.1940	0.091	0.123	.0877	.0998	.0789	.0457	.0609	.0661	0.059
		STD			.1171	.0928	.0648	.0303	.0211	.0187	.0201	.0238	.0089	.0201	.0126	
	BLACK-CROWNED NIGHT-HERON	N										10				1
		MEAN										.0278				0.006
		STD										.0169				
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18						10		10		1			
		MEAN	.0067						0.054		.0371		0.031			
		STD	.0024						.0276		.0146					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
MIDDLE SISTER ISLAND	HERRING GULL	N						44								
		MEAN						.2523								
		STD						0.063								
FIGHTING ISLAND	HERRING GULL	N	2					11	45		10	20	11	10	10	1
		MEAN	0.31					.2809	.3716		0.248	.1317	.1251	.2097	.0972	0.059
		STD	.0283					.0574	.0899		.0683	.0605	.0362	.0379	.0313	
	COMMON TERN	N	3						10							
		MEAN	0.06						0.141							
		STD	0.01						.0484							
	RING-BILLED GULL	N							10					10		
		MEAN							0.095					.0327		
		STD							.0337					.0164		
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N														1
		MEAN														0.01
		STD														
	FORSTER'S TERN	N														1
		MEAN														0.044
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
NIAGARA RIVER	HERRING GULL	N	1	1
		MEAN	.0311	.0374
		STD		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1
		MEAN	.0282	.0338
		STD	.0088	
MIDDLE ISLAND	HERRING GULL	N	10	1
		MEAN	.0353	.0638
		STD	.0091	
FIGHTING ISLAND	HERRING GULL	N	10	1
		MEAN	.0576	0.094
		STD	.0174	
ST. CLAIR RIVER	HERRING GULL	N	1	
		MEAN	.1078	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, LAKE HURON

			YEAR												
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
CHANTRY ISLAND	HERRING GULL	N				10	10		10	15	10	10	10	10	11	10
		MEAN				.4674	.1786		.1720	0.126	0.099	.0751	0.072	.0808	.0455	.0736
		STD				.2259	.0484		.0804	.0646	.0739	.0271	.0251	.0265	.0134	.0173
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												0.035		
		STD														
KETTLE POINT	COMMON TERN	N		2												
		MEAN		0.17												
		STD		0												
MANITOBA REEF	HERRING GULL	N										10				
		MEAN										.0973				
		STD										.0748				
BLACK RIVER	HERRING GULL	N										10				
		MEAN										.1127				
		STD										.0422				
LITTLE CHARITY ISLAND	HERRING GULL	N										10				
		MEAN										.1316				
		STD										.0449				
CHANNEL SHELTER ISLAND	HERRING GULL	N										10	10	10	11	10
		MEAN										.1935	.1367	.1719	.1375	.0873
		STD										.0554	.0215	0.05	.0633	.0258
NOTTAWASAGA ISLAND	HERRING GULL	N										10				
		MEAN										.0784				
		STD										.0379				
WALLIS ROCK	DOUBLE-CRESTED CORMORANT	N	2	3	1											
		MEAN	0.495	.0083	0.02											
		STD	.6576	.0029												
SOUTH LIMESTONE ISLAND	HERRING GULL	N						2								
		MEAN						0.114								
		STD						.0269								
	CASPIAN TERN	N		1								10				
		MEAN		0.03								.0318				
		STD										.0127				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, LAKE HURON

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	6													
		MEAN	.2067													
		STD	0.283													
CASTLE ROCK	HERRING GULL	N										10				
		MEAN										.0928				
		STD										0.047				
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N		3												
		MEAN		0.01												
		STD		0												
HALF MOON ISLAND	CASPIAN TERN	N										9				
		MEAN										.0409				
		STD										.0157				
GULL ROCK	DOUBLE-CRESTED CORMORANT	N		9			1									
		MEAN		.0111			0.01									
		STD		.0055												
THE COUSINS ISLAND	CASPIAN TERN	N										10				
		MEAN										.0459				
		STD										.0323				
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N	7	2			1									
		MEAN	.0371	.0075			0.01									
		STD	.0138	.0035												
DOUBLE ISLAND	HERRING GULL	N				10	10		10	10	10	10	10	10	11	10
		MEAN				.2983	.2394		.2110	0.088	0.104	.0554	.0693	.0692	.0501	.0633
		STD				.0801	0.075		.0536	.0473	.0427	.0154	0.025	.0092	.0158	.0191
TALON ROCK	DOUBLE-CRESTED CORMORANT	N	3	1												
		MEAN	.0167	0.01												
		STD	.0115													
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N			1		2				9					
		MEAN			0.02		0.01				.0433					
		STD					0				.0132					
PUMPKIN POINT	HERRING GULL	N										10				
		MEAN										.0899				
		STD										.0476				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, LAKE HURON

			YEAR			
			85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	1	1	13
		MEAN	0.051	0.05	.0241	.0411
		STD	.0149			.0235
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	1	1	16
		MEAN	.0871	0.074	.0672	0.08
		STD	.0228			.0243
DOUBLE ISLAND	HERRING GULL	N	10	1	1	13
		MEAN	.0666	0.044	.0194	.0425
		STD	0.019			.0095
PUMPKIN POINT	HERRING GULL	N	10	1		
		MEAN	.0609	0.042		
		STD	.0308			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, LAKE MICHIGAN

			YEAR													
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
ISLE AUX GALETS	CASPIAN TERN	N							9							
		MEAN							.0376							
		STD							.0252							
HAT ISLAND	HERRING GULL	N				9										
		MEAN				0.228										
		STD				.1629										
	CASPIAN TERN	N							9							
		MEAN							.0379							
		STD							.0306							
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10	9		1	1
		MEAN					0.123	0.135	.0997	.1196	.0701	.0611	0.047		.0355	.0562
		STD					.0521	.0544	.0279	.0193	.0388	0.016	.0071			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					0.134									
		STD					0.085									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												0.084		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										0.059				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										0.06				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										0.061				
		STD														
GRAVELLY ISLAND	CASPIAN TERN	N							10							
		MEAN							.1546							
		STD							.3778							
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				.2565										
		STD				.1034										

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, LAKE MICHIGAN

			YEAR												
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	10	1	1	1
		MEAN	.4233	.1058	.1417		0.121	0.132	.0841	.0665	.0316	.0618	.0488	0.065	.0749	.0337
		STD	.6307	.0477	.0598		.0515	.0747	.0234	.0178	0.007	.0178	.0337			
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										0.053				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
CHENE ISLAND	HERRING GULL	N											1			
		MEAN											0.053			
		STD														
MAMMAINSE HARBOUR	HERRING GULL	N		10	10		10	8								
		MEAN		.2869	.2356		.1340	.0875								
		STD		.1287	.0817		.0631	.0489								
AGAWA ROCK	HERRING GULL	N						10	10	10	10	10	12	10	10	1
		MEAN						0.105	0.142	.0802	.1413	.0956	.0545	0.055	.0478	0.048
		STD						.0617	0.077	.0198	.0866	.0284	.0589	.0206	.0075	
LEADMAN ISLANDS	HERRING GULL	N											1			
		MEAN											0.07			
		STD														
HURON ISLAND	HERRING GULL	N											1			
		MEAN											0.049			
		STD														
LAKE LINDEN	HERRING GULL	N											1			
		MEAN											0.041			
		STD														
GRANITE ISLAND	HERRING GULL	N	2	9		10		10	10	10	10	10		10	10	1
		MEAN	0.228	.2196		0.05		0.138	0.145	.0768	.0913	.0738		.0462	.0608	0.047
		STD	.0537	.1232		.0684		.0575	.0602	.0256	.0227	0.015		.0149	.0199	
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N											1			
		MEAN											0.034			
		STD														
PAPOOSE ISLAND	HERRING GULL	N											1			
		MEAN											0.052			
		STD														
SILVER ISLET	HERRING GULL	N	2		10		10									
		MEAN	0.19		.1216		.1230									
		STD	.0269		.0822		.1718									
GULL ISLAND	HERRING GULL	N											2			
		MEAN											.0765			
		STD											.0064			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
KNIFE ISLAND	HERRING GULL	N											1			
		MEAN											0.052			
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g. 1-97

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEXACHLOROBENZENE, LAKE SUPERIOR

			YEAR	
			87	88
AGAWA ROCK	HERRING GULL	N	1	1
		MEAN	.0378	.0474
		STD		
GRANITE ISLAND	HERRING GULL	N	1	1
		MEAN	0.038	.0459
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SNAKE ISLAND	HERRING GULL	N							10		10	10	10	10	11	10
		MEAN							.2700		0.112	0.078	0.173	0.245	.0245	0.015
		STD							.1168		.0399	.0305	.0775	.0701	.0129	.0115
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10									
		MEAN			1.026	0.308	.0763									
		STD			.6358	.3044	.0321									
PIGEON ISLAND	HERRING GULL	N		1									10	10		
		MEAN		.0007									0.104	0.213		
		STD											.0357	.0946		
	BLACK-CROWNED NIGHT-HERON	N		1										12		
		MEAN		0.08										0.11		
		STD												0.136		
LITTLE GALLOO ISLAND	HERRING GULL	N											10	10		
		MEAN											0.109	0.469		
		STD											.0321	.0832		
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												0.04		
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N						15		8				1		
		MEAN						.1915		.2175				0.15		
		STD						.0891		.0515						
	DOUBLE-CRESTED CORMORANT	N		7			1									
		MEAN		.1786			0.01									
		STD		0.062												
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	4	19		11		9		
		MEAN						0.084	.1786	.2321		.0173		.0733		
		STD						.0198	.0598	0.087		.0047		0.025		
	COMMON TERN	N					4									
		MEAN					.0538									
		STD					.0439									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
TORONTO ISLANDS	COMMON TERN	N			6											
		MEAN			.1717											
		STD			.1001											
MUGG'S ISLAND	HERRING GULL	N				9	10		10		10	9	10	9	11	10
		MEAN				.3064	0.007		.1650		0.118	0.14	0.056	.1011	.0182	.0175
		STD				.1106	0		0.058		.0644	.0673	.0246	.0392	.0087	.0127
	COMMON TERN	N		5												
		MEAN		0.238												
		STD		.2009												
	RING-BILLED GULL	N									24					
		MEAN									.1104					
		STD									.0418					
HAMILTON HARBOUR	HERRING GULL	N											10	1		1
		MEAN											0.102	0.09		0.02
		STD											.0286			
	COMMON TERN	N	25													
		MEAN	0.582													
		STD	.4334													
	RING-BILLED GULL	N														10
		MEAN														0.031
		STD														.0237

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR			
			85	86	87	88
STRACHAN ISLAND	HERRING GULL	N		1		1
		MEAN		0.008		0.003
		STD				
SNAKE ISLAND	HERRING GULL	N	10	10	1	1
		MEAN	0.021	.0005	.0035	.0078
		STD	.0057	0		
LESLIE ST. SPIT	HERRING GULL	N				1
		MEAN				.0137
		STD				
MUGG'S ISLAND	HERRING GULL	N	10	10	1	
		MEAN	0.033	.0159	.0117	
		STD	.0157	.0088		
HAMILTON HARBOUR	HERRING GULL	N		1	1	
		MEAN		0.033	.0139	
		STD				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	79	80	81	82	83	84	85	86	87
NIAGARA RIVER	HERRING GULL	N						10		10	1	11	10	10	10	1
		MEAN						0.137		0.059	0.02	.0218	0.009	0.028	.0014	.0081
		STD						.0313		0.036		.0199	.0021	.0162	.0027	
	BLACK-CROWNED NIGHT-HERON	N									1				1	
		MEAN									0.08				0.095	
		STD														
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6												
		MEAN		0.115												
		STD		.0513												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	10	9	10	1	11	10	10	1	10
		MEAN			0.182	.0952	.1610	0.119	.0956	0.049	0.15	.0164	0.013	0.023	.0005	.0115
		STD			.0498	.0172	.0331	.0242	.0292	.0173		.0081	.0048	.0082		.0091
	COMMON TERN	N	4	2												
		MEAN	.1475	0.13												
		STD	0.033	0												
LONG POINT PROVINCIAL PARK	FORSTER'S TERN	N													1	
		MEAN													.0005	
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N						10								
		MEAN						0.096								
		STD						.0409								
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10	10	10	10	10	1	10
		MEAN			.1736	.0224	.1920	0.123	0.061	0.038	0.073	0.015	0.01	0.028	0.019	.0112
		STD			.0667	.0171	.0665	.0353	.0129	.0175	0.062	.0053	0	.0079		.0029
	BLACK-CROWNED NIGHT-HERON	N									10				1	
		MEAN									0.054				0.016	
		STD									.0135					
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18					10				1				
		MEAN	.0873					0.213				0.01				
		STD	.0784					.1474								
FIGHTING ISLAND	HERRING GULL	N	2					45		10	20	11	10	10	1	10
		MEAN	0.08					.1351		0.086	.0765	.0218	0.024	0.017	0.012	0.017
		STD	0					0.082		0.042	.0559	0.006	.0151	.0067		.0129

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	79	80	81	82	83	84	85	86	87
FIGHTING ISLAND	COMMON TERN	N	3					10								
		MEAN	.0868					0.118								
		STD	.0806					.0559								
	RING-BILLED GULL	N						10					10			
		MEAN						0.055					.0105			
		STD						.0284					.0037			
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													0.008	
		STD														
	FORSTER'S TERN	N													1	
		MEAN													0.008	
		STD														
ST. CLAIR RIVER	HERRING GULL	N														1
		MEAN														.0143
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			88
NIAGARA RIVER	HERRING GULL	N	1
		MEAN	.0121
		STD	
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1
		MEAN	.0082
		STD	
MIDDLE ISLAND	HERRING GULL	N	1
		MEAN	.0164
		STD	
FIGHTING ISLAND	HERRING GULL	N	1
		MEAN	0.015
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
CHANTRY ISLAND	HERRING GULL	N					10	10		10	5	10	10	10	10	11
		MEAN					0.294	.0336		.2270	0.13	0.108	0.108	0.035	0.162	.0127
		STD					.0726	.0352		.0825	.1027	.0394	0.027	.0143	.0832	.0087
	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													0.02	
		STD														
KETTLE POINT	COMMON TERN	N			2											
		MEAN			0.045											
		STD			.0495											
CHANNEL SHELTER ISLAND	HERRING GULL	N												9	9	11
		MEAN												.2211	.0833	.0318
		STD												.0501	.0367	.0218
WALLACE ROCK	DOUBLE-CRESTED CORMORANT	N		2	3	1										
		MEAN		0.235	.1367	0.2										
		STD		.1344	.1102											
SOUTH LIMESTONE ISLAND	HERRING GULL	N							2							
		MEAN							.0007							
		STD							0							
SOUTH LIMESTONE ISLAND	CASPIAN TERN	N			1											
		MEAN			0.65											
		STD														
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	7	8												
		MEAN	4.508	.1694												
		STD	4.368	.2136												
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N			3											
		MEAN			0.11											
		STD			.1058											
GULL ROCK	DOUBLE-CRESTED CORMORANT	N			9			1								
		MEAN			.1222			0.005								
		STD			.0636											
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N		7	2			1								
		MEAN		.1261	0.12			0.13								
		STD		.2553	0.099											

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, LAKE HURON

			YEAR													
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
DOUBLE ISLAND	HERRING GULL	N					10	10		10		10	10	10	7	11
		MEAN					0.364	.0168		.2590		0.114	0.085	0.045	.0743	.0114
		STD					.0881	.0207		.1197		.0445	.0321	.0127	.0244	.0074
TALON ROCK	DOUBLE-CRESTED CORMORANT	N		3	1											
		MEAN		.1303	0.07											
		STD		.2249												
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				1		2				9				
		MEAN				0.26		0.15				.1511				
		STD						.0566				.1082				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	.0085	.0235	0.01	.0037	.0087
		STD	.0024	.0309			.0016
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	10	1	1	16
		MEAN	0.023	0.068	0.031	.0378	.0351
		STD	.0106	.0225			.0238
DOUBLE ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	0.008	0.023	.0005	.0037	.0071
		STD	.0048	.0095			.0111
PUMPKIN POINT	HERRING GULL	N		10	1		
		MEAN		0.015	.0005		
		STD		.0071			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, LAKE MICHIGAN

			YEAR												
			71	73	76	77	79	80	82	83	84	85	86	87	88
HAT ISLAND	HERRING GULL	N				9									
		MEAN				.2893									
		STD				.0313									
GULL ISLAND	HERRING GULL	N					10	10	6	11	10	9		1	1
		MEAN					0.242	0.219	.1017	.0291	.0135	0.02		.0098	.0096
		STD					.1095	.0862	.0371	.0247	0.01	.0087			
TROUT ISLAND	HERRING GULL	N											1		
		MEAN											0.018		
		STD													
FISH ISLAND	HERRING GULL	N									1				
		MEAN									0.01				
		STD													
GRAVEL ISLAND	HERRING GULL	N									1				
		MEAN									0.01				
		STD													
SPIDER ISLAND	HERRING GULL	N									1				
		MEAN									0.01				
		STD													
LITTLE SISTER ISLAND	HERRING GULL	N				10									
		MEAN				0.364									
		STD				.0963									
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	9	10	10	10	1	1	1
		MEAN	0.159	0.103	0.25		0.214	0.192	.0489	0.017	0.022	0.046	0.013	.0221	.0071
		STD	.0567	.0552	.1246		.1479	0.041	.0285	.0082	.0103	.0107			
HAT ISLAND GREEN BAY	HERRING GULL	N									1				
		MEAN									0.01				
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	79	80	81	82	83	84	85	86	87
CHENE ISLAND	HERRING GULL	N										1				
		MEAN										0.018				
		STD														
MAMMAINSE HARBOUR	HERRING GULL	N		10	10		10									
		MEAN		.2828	.1141		.2140									
		STD		.0659	.0577		.1431									
AGAWA ROCK	HERRING GULL	N						10	10	10	10	12	10	10	1	1
		MEAN						0.183	0.106	0.066	0.133	.0155	0.017	0.016	.0005	.0035
		STD						0.093	.0515	.0288	.0658	.0085	.0175	.0052		
LEADMAN ISLANDS	HERRING GULL	N										1				
		MEAN										0.047				
		STD														
HURON ISLAND	HERRING GULL	N										1				
		MEAN										0.022				
		STD														
LAKE LINDEN	HERRING GULL	N										1				
		MEAN										0.014				
		STD														
GRANITE ISLAND	HERRING GULL	N	2	9		10		10	10	10	10		10	10	1	1
		MEAN	.0245	.4418		.0494		0.195	0.11	.0391	0.098		0.009	0.032	.0005	.0035
		STD	.0247	.0875		0.067		0.065	.0279	.0237	.0494		.0021	.0092		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N										1				
		MEAN										0.01				
		STD														
PAPOOSE ISLAND	HERRING GULL	N										1				
		MEAN										0.018				
		STD														
SILVER ISLET	HERRING GULL	N	2		10		10									
		MEAN	0.007		.1372		.1417									
		STD	0		.0506		.0625									
GULL ISLAND	HERRING GULL	N										2				
		MEAN										.0225				
		STD										.0177				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	79	80	81	82	83	84	85	86	87
KNIFE ISLAND	HERRING GULL	N										1				
		MEAN										0.018				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDD, LAKE SUPERIOR

			YEAR
			88
AGAWA ROCK	HERRING GULL	N	1
		MEAN	0.007
		STD	
GRANITE ISLAND	HERRING GULL	N	1
		MEAN	.0029
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SNAKE ISLAND	HERRING GULL	N							10	10	10	10	10	10	11	10
		MEAN							16.96	10.45	8.834	7.123	11.75	8.748	5.075	7.212
		STD							4.723	2.944	2.958	4.069	4.54	2.193	1.769	2.016
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10									
		MEAN			41.98	21.37	23.58									
		STD			27.44	9.148	6.094									
PIGEON ISLAND	HERRING GULL	N		1									10	10		
		MEAN		35.6									13.98	10.43		
		STD											8.456	2.887		
	DOUBLE-CRESTED CORMORANT	N											10			
		MEAN											3.745			
		STD											2.36			
	CASPIAN TERN	N											8			
		MEAN											5.229			
		STD											1.601			
	BLACK-CROWNED NIGHT-HERON	N		1										12		
		MEAN		13										4.827		
		STD												2.327		
LITTLE GALLOO ISLAND	HERRING GULL	N											10	10		
		MEAN											8.437	8.27		
		STD											3.076	3.717		
	DOUBLE-CRESTED CORMORANT	N											10			
		MEAN											5.8			
		STD											1.739			
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												4.08		
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N						15		8				1		
		MEAN						25.31		18.4				10.4		
		STD						13.81		8.47						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SCOTCH BONNET ISLAND	DOUBLE-CRESTED CORMORANT	N		7			1									
		MEAN		9.37			0.55									
		STD		2.187												
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	4	19		11		10		
		MEAN						21.5	20.18	19.12		7.345		12.28		
		STD						14.67	6.105	9.043		2.245		4.509		
	COMMON TERN	N					4									
		MEAN					2.978									
		STD					1.774									
LESLIE ST. SPIT	HERRING GULL	N								4						
		MEAN								9.96						
		STD								3.89						
TORONTO ISLANDS	COMMON TERN	N			6											
		MEAN			5.733											
		STD			2.985											
MUGG'S ISLAND	HERRING GULL	N				9	10		10	4	10	9	10	9	11	10
		MEAN				23.32	22.02		12.8	11.85	9.046	8.169	10.26	11.47	4.489	5.317
		STD				5.521	5.554		2.53	1.748	3.468	5.822	5.164	4.399	1.613	2.277
	COMMON TERN	N		5												
		MEAN		18.94												
		STD		9.417												
	RING-BILLED GULL	N									24					
		MEAN									3.019					
		STD									1.321					
HAMILTON HARBOUR	HERRING GULL	N											10	1		1
		MEAN											11.1	4.76		5.12
		STD											3.947			
	COMMON TERN	N	25													
		MEAN	16.84													
		STD	8.587													
	RING-BILLED GULL	N														10
		MEAN														3.222
		STD														2.714

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR			
			85	86	87	88
STRACHAN ISLAND	HERRING GULL	N		1		1
		MEAN		3.59		3.97
		STD				
SNAKE ISLAND	HERRING GULL	N	10	10	1	1
		MEAN	7.152	4.709	2.853	5.151
		STD	3.004	2.163		
LESLIE ST. SPIT	HERRING GULL	N				1
		MEAN				3.343
		STD				
MUGG'S ISLAND	HERRING GULL	N	10	10	1	
		MEAN	4.897	3.999	2.348	
		STD	1.333	1.045		
HAMILTON HARBOUR	HERRING GULL	N		1	1	
		MEAN		4.08	2.409	
		STD				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
NIAGARA RIVER	HERRING GULL	N							10		10	1	11	10	10	10
		MEAN							4.005		5.677	3.65	3.868	3.348	4.12	2.727
		STD							1.334		2.642		1.143	1.081	1.09	1.016
	BLACK-CROWNED NIGHT-HERON	N										1				1
		MEAN										4.81				3.27
		STD														
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6												
		MEAN		2.662												
		STD		1.027												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	10	10	9	10	1	11	10	10	1
		MEAN			8.71	7.915	7.551	5.598	3.437	3.4	4.736	7.46	3.05	4.427	3.619	3.21
		STD			3.274	1.857	1.669	1.326	1.004	1.512	1.717		1.306	1.373	1.134	
	COMMON TERN	N	4	2												
		MEAN	6.42	3.535												
		STD	1.786	1.959												
MOHAWK ISLAND	HERRING GULL	N						10								
		MEAN						4.445								
		STD						1.195								
LONG POINT PROVINCIAL PARK	FORSTER'S TERN	N														1
		MEAN														1.21
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N							10							
		MEAN							2.981							
		STD							1.525							
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10	10	10	10	10	10	1
		MEAN			5.551	6.902	7.419	2.977	2.763	2.603	3.064	2.628	1.663	2.026	2.038	2.32
		STD			1.646	1.703	2.184	1.006	.5935	0.655	.9306	1.033	.8547	1.034	.5713	
	BLACK-CROWNED NIGHT-HERON	N										10				1
		MEAN										1.736				0.763
		STD										.8802				
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18						10		10		1			
		MEAN	6.364						4.516		3.593		2.69			
		STD	4.618						2.325		3.09					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
MIDDLE SISTER ISLAND	HERRING GULL	N						44								
		MEAN						5.279								
		STD						1.472								
FIGHTING ISLAND	HERRING GULL	N	2					11	45		10	20	11	10	10	1
		MEAN	48.1					9.438	6.817		5.422	3.792	3.162	3.453	3.47	2.37
		STD	34.51					2.513	1.868		1.573	1.098	.8937	1.28	2.229	
	COMMON TERN	N	3						10							
		MEAN	5.963						1.614							
		STD	2.421						.4212							
	RING-BILLED GULL	N							10					10		
		MEAN							2.093					1.081		
		STD							.8744					.4933		
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N														1
		MEAN														1.79
		STD														
	FORSTER'S TERN	N														1
		MEAN														1.47
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
NIAGARA RIVER	HERRING GULL	N	1	1
		MEAN	1.51	1.69
		STD		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1
		MEAN	1.736	1.93
		STD	.9458	
MIDDLE ISLAND	HERRING GULL	N	10	1
		MEAN	1.696	2.206
		STD	.4739	
FIGHTING ISLAND	HERRING GULL	N	10	1
		MEAN	2.236	3.184
		STD	.8358	
ST. CLAIR RIVER	HERRING GULL	N	1	
		MEAN	2.409	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
CHANTRY ISLAND	HERRING GULL	N					10	10		10	15	10	10	10	10	11
		MEAN					20.97	11.85		13.32	6.143	2.543	2.831	4.081	5.029	2.224
		STD					8.637	4.402		4.57	2.41	1.69	1.442	1.858	3.228	1.006
	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													3.96	
		STD														
KETTLE POINT	COMMON TERN	N			2											
		MEAN			5.635											
		STD			.8697											
MANITOBA REEF	HERRING GULL	N											10			
		MEAN											6.38			
		STD											3.881			
BLACK RIVER	HERRING GULL	N											10			
		MEAN											5.831			
		STD											2.718			
LITTLE CHARITY ISLAND	HERRING GULL	N											10			
		MEAN											6.442			
		STD											1.712			
CHANNEL SHELTER ISLAND	HERRING GULL	N											10	10	10	11
		MEAN											8.899	7.297	8.099	6.059
		STD											3.77	2.052	2.915	1.942
NOTTAWASAGA ISLAND	HERRING GULL	N											10			
		MEAN											2.133			
		STD											1.136			
WALLIS ROCK	DOUBLE-CRESTED CORMORANT	N		2	3	1										
		MEAN		15.85	15.6	12.4										
		STD		2.051	1.908											
SOUTH LIMESTONE ISLAND	HERRING GULL	N							2							
		MEAN							23.4							
		STD							11.17							
	CASPIAN TERN	N			1								10			
		MEAN			15.8								3.748			
		STD											1.297			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	7	8												
		MEAN	24.89	15.64												
		STD	29.49	8.936												
CASTLE ROCK	HERRING GULL	N											10			
		MEAN											3.349			
		STD											1.109			
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N			3											
		MEAN			16.37											
		STD			8.41											
HALF MOON ISLAND	CASPIAN TERN	N											9			
		MEAN											3.246			
		STD											1.115			
GULL ROCK	DOUBLE-CRESTED CORMORANT	N			9			1								
		MEAN			14.49			3.76								
		STD			5.292											
THE COUSINS ISLAND	CASPIAN TERN	N											10			
		MEAN											4.692			
		STD											1.899			
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N		7	2			1								
		MEAN		17.77	15.21			3.32								
		STD		12.27	13.71											
DOUBLE ISLAND	HERRING GULL	N					10	10		10	10	10	10	10	10	11
		MEAN					13.82	16.21		19.03	7.041	2.059	2.597	3.559	3.84	3.246
		STD					6.652	8.584		15.1	2.584	.7564	1.282	1.4	2.06	2.018
TALON ROCK	DOUBLE-CRESTED CORMORANT	N		3	1											
		MEAN		17.7	5.12											
		STD		5.484												
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				1		2				9				
		MEAN				15.4		7.145				2.447				
		STD						.5303				2.773				
PUMPKIN POINT	HERRING GULL	N											10			
		MEAN											3.135			
		STD											1.317			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	2.547	2.466	2	1.044	1.116
		STD	1.676	1.293			.6921
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	10	1	1	16
		MEAN	5.41	4.808	5.95	4.002	4.548
		STD	2.062	1.367			1.725
DOUBLE ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	2.578	3.081	2.1	1.599	1.688
		STD	.7193	1.372			.7558
PUMPKIN POINT	HERRING GULL	N		10	1		
		MEAN		4.029	3.2		
		STD		2.692			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, LAKE MICHIGAN

			YEAR												
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
ISLE AUX GALETS	CASPIAN TERN	N							9							
		MEAN							4.614							
		STD							1.173							
HAT ISLAND	HERRING GULL	N				9										
		MEAN				27.76										
		STD				8.993										
	CASPIAN TERN	N							9							
		MEAN							5.624							
		STD							2.218							
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10	9		1	1
		MEAN					22.91	14.72	12.95	13.84	6.185	6.371	5.921		3.95	6.108
		STD					8.306	4.764	6.484	3.829	1.372	2.335	1.589			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					23.17									
		STD					9.864									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												7.91		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										8.5				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										8.67				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										7.16				
		STD														
GRAVELLY ISLAND	CASPIAN TERN	N							10							
		MEAN							8.762							
		STD							4.951							
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				30.59										
		STD				12.58										

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, LAKE MICHIGAN

			YEAR												
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	10	1	1	1
		MEAN	60.98	54.36	33.4		21.8	11.79	11.38	17.89	6.761	9.338	7.934	7.05	12.31	3.966
		STD	33.79	15.99	10.34		8.001	6.082	2.606	5.808	1.767	4.054	7.445			
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										7.14				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
CHENE ISLAND	HERRING GULL	N											1			
		MEAN											2.74			
		STD														
MAMMAINSE HARBOR	HERRING GULL	N		10	10		10	8								
		MEAN		14.19	22.03		12.01	9.683								
		STD		4.115	8.601		4.269	4.782								
AGAWA ROCK	HERRING GULL	N						10	10	10	10	10	12	10	10	1
		MEAN						8.459	7.264	3.702	6.256	5.831	3.238	2.485	2.965	3.13
		STD						4.953	5.408	3.545	3.087	2.188	1.079	.8452	0.705	
LEADMAN ISLANDS	HERRING GULL	N											1			
		MEAN											4			
		STD														
HURON ISLAND	HERRING GULL	N											1			
		MEAN											3.46			
		STD														
LAKE LINDEN	HERRING GULL	N											1			
		MEAN											3.78			
		STD														
GRANITE ISLAND	HERRING GULL	N	2	9		10		10	10	10	10	10		10	10	1
		MEAN	23.7	19.26		14.13		9.608	6.393	3.646	5.231	6.749		3.403	3.295	3.3
		STD	3.96	6.993		5.24		3.349	3.662	.9891	.9275	4.747		.9105	1.843	
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N											1			
		MEAN											2.46			
		STD														
PAPOOSE ISLAND	HERRING GULL	N											1			
		MEAN											3.46			
		STD														
SILVER ISLET	HERRING GULL	N	2		10		10									
		MEAN	26.8		24.16		11.82									
		STD	6.647		10.85		6.882									
GULL ISLAND	HERRING GULL	N											2			
		MEAN											4.57			
		STD											.1131			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
KNIFE ISLAND	HERRING GULL	N											1			
		MEAN											3.84			
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDE, LAKE SUPERIOR

			YEAR	
			87	88
AGAWA ROCK	HERRING GULL	N	1	1
		MEAN	2.15	2.708
		STD		
GRANITE ISLAND	HERRING GULL	N	1	1
		MEAN	2.897	3.168
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SNAKE ISLAND	HERRING GULL	N							10	10	10	10	10	10	11	10
		MEAN							.1130	0.069	0.057	0.143	0.105	0.099	.0255	.0175
		STD							.0622	.0208	.0298	.1371	.0488	.0273	.0069	.0151
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10									
		MEAN			.7789	.9931	.2394									
		STD			.8406	1.058	.1681									
PIGEON ISLAND	HERRING GULL	N		1									10	10		
		MEAN		.0020									0.076	0.163		
		STD											0.031	0.062		
	BLACK-CROWNED NIGHT-HERON	N		1										12		
		MEAN		.0112										.0675		
		STD												.0538		
LITTLE GALLOO ISLAND	HERRING GULL	N											10	10		
		MEAN											0.076	0.09		
		STD											.0276	0.035		
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												0.05		
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N						15		8				1		
		MEAN						.6390		0.275				0.18		
		STD						.5697		.0526						
	DOUBLE-CRESTED CORMORANT	N		7			1									
		MEAN		.2747			.0223									
		STD		.1852												
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	4	19		11		10		
		MEAN						.1296	.1868	.2895		.1182		0.118		
		STD						.0825	.0553	.1231		.0424		.0718		
	COMMON TERN	N					4									
		MEAN					.0447									
		STD					.0182									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
LESLIE SPIT	HERRING GULL	N								4						
		MEAN								0.09						
		STD								.0583						
TORONTO ISLANDS	COMMON TERN	N			6											
		MEAN			.2794											
		STD			.1460											
MUGGS ISLAND	HERRING GULL	N				9	10		10	4	10	9	10	9	11	10
		MEAN				1.182	.1292		0.118	.1025	0.079	.1044	0.078	.1067	.0168	.0095
		STD				.7866	.0572		.0459	.0377	.0574	.0442	0.027	.0218	.0072	.0044
	COMMON TERN	N		5												
		MEAN		.3554												
		STD		.3295												
	RING-BILLED GULL	N									24					
		MEAN									.0263					
		STD									.0134					
HAMILTON HARBOUR	HERRING GULL	N											10	1		1
		MEAN											0.114	0.09		0.02
		STD											.0267			
	COMMON TERN	N	25													
		MEAN	.3083													
		STD	.3226													
	RING-BILLED GULL	N														10
		MEAN														.0325
		STD														.0321

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR			
			85	86	87	88
STRACHAN ISLAND	HERRING GULL	N		1		1
		MEAN		0.04		.0255
		STD				
SNAKE ISLAND	HERRING GULL	N	10	10	1	1
		MEAN	0.036	.0336	.0122	.0382
		STD	.0143	.0251		
LESLIE SPIT	HERRING GULL	N				1
		MEAN				.0383
		STD				
MUGGS ISLAND	HERRING GULL	N	10	10	1	
		MEAN	0.047	.0489	.0202	
		STD	.0216	.0161		
HAMILTON HARBOUR	HERRING GULL	N		1	1	
		MEAN		0.357	.0339	
		STD				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR													
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
NIAGARA RIVER	HERRING GULL	N							10		10	1	11	10	10	10
		MEAN							0.055		0.055	0.06	0.01	0.01	0.029	.0174
		STD							.0366		.0334		0	.0041	.0099	.0098
	BLACK-CROWNED NIGHT-HERON	N										1				1
		MEAN										0.11				0.079
		STD														
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6												
		MEAN		.0484												
		STD		.0261												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	10	10	9	10	1	11	10	10	1
		MEAN			.2318	.1064	.0620	0.086	0.03	.1133	0.045	0.09	.0095	0.012	0.03	0.025
		STD			.0748	.0561	.0301	.0617	.0133	.1042	.0165		.0042	.0063	.0133	
	COMMON TERN	N	4	2												
		MEAN	.0011	.0894												
		STD	0	.0316												
MOHAWK ISLAND	HERRING GULL	N						10								
		MEAN						0.044								
		STD						.0126								
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N														1
		MEAN														0.03
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N							10							
		MEAN							0.035							
		STD							.0108							
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10	10	10	10	10	10	1
		MEAN			.3154	.0950	.0500	0.052	0.026	0.098	0.044	0.027	.0075	0.01	0.023	0.016
		STD			.1652	.0652	.0267	.0333	.0097	.0843	.0237	.0125	.0026	.0075	.0106	
	BLACK-CROWNED NIGHT-HERON	N										10				1
		MEAN										.0025				.0005
		STD										0				
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18						10				1			
		MEAN	.0710						0.046				0.005			
		STD	.0477						.0622							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
MIDDLE SISTER ISLAND	HERRING GULL	N						44								
		MEAN						.0473								
		STD						.0366								
FIGHTING ISLAND	HERRING GULL	N	2					11	45		10	20	11	10	10	1
		MEAN	.2682					.0936	.0458		0.064	.0335	.0089	.0065	0.018	0.014
		STD	0					.0378	.0171		.0267	0.025	.0026	.0024	.0092	
	COMMON TERN	N	3						10							
		MEAN	0.075						0.018							
		STD	.1004						.0103							
	RING-BILLED GULL	N							10					10		
		MEAN							.0281					.0203		
		STD							.0174					.0233		
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N														1
		MEAN														0.007
		STD														
	FORSTERS TERN	N														1
		MEAN														0.052
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
NIAGARA RIVER	HERRING GULL	N	1	1
		MEAN	.0122	.0277
		STD		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1
		MEAN	.0202	.0167
		STD	.0047	
MIDDLE ISLAND	HERRING GULL	N	10	1
		MEAN	.0162	.0158
		STD	.0055	
FIGHTING ISLAND	HERRING GULL	N	10	1
		MEAN	.0165	.0221
		STD	.0074	
ST. CLAIR RIVER	HERRING GULL	N	1	
		MEAN	.0444	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
CHANTRY ISLAND	HERRING GULL	N					10	10		10	15	10	10	10	10	11
		MEAN					.6345	.1520		.0910	.0827	0.057	0.04	0.028	0.077	0.02
		STD					.2266	.1188		.0495	.0745	.0189	.0141	.0123	0.04	0.011
	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													0.03	
		STD														
KETTLE POINT	COMMON TERN	N			2											
		MEAN			.0279											
		STD			.0237											
CHANNEL SHELTER ISLAND	HERRING GULL	N												10	10	11
		MEAN												0.049	0.039	0.01
		STD												.0213	.0173	.0039
WALLIS ROCK	DOUBLE-CRESTED CORMORANT	N		2	3	1										
		MEAN		1.576	.4321	.6258										
		STD		.8060	.4477											
SOUTH LIMESTONE ISLAND	HERRING GULL	N							2							
		MEAN							.7409							
		STD							.4030							
	CASPIAN TERN	N			1											
		MEAN			.7152											
		STD														
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	7	8												
		MEAN	10.52	.4184												
		STD	9.826	.4116												
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N			3											
		MEAN			.3427											
		STD			.2411											
GULL ROCK	DOUBLE-CRESTED CORMORANT	N			9			1								
		MEAN			.2522			.0447								
		STD			.2322											
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N		7	2			1								
		MEAN		.2971	.3017			.0894								
		STD		.2845	.2371											

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
DOUBLE ISLAND	HERRING GULL	N					10	10		10	10	10	10	10	10	11
		MEAN					.5547	.1710		.0900	0.089	0.06	0.048	0.04	0.085	.0214
		STD					.2793	.0952		.0658	.0208	.0422	.0215	.0176	.0433	.0145
TALON ROCK	DOUBLE-CRESTED CORMORANT	N		3	1											
		MEAN		.3799	.0022											
		STD		.1612												
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				1		2				9				
		MEAN				.6928		.1006				.0394				
		STD						.0158				.0326				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	0.011	0.067	0.064	.0125	.0813
		STD	.0052	.0306			.0233
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	10	1	1	16
		MEAN	.0095	0.041	0.038	.0197	.0402
		STD	.0044	.0191			.0272
DOUBLE ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	.0155	0.074	0.06	0.028	.0728
		STD	0.009	.0259			.0467
PUMPKIN POINT	HERRING GULL	N		10	1		
		MEAN		0.042	0.056		
		STD		.0244			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, LAKE MICHIGAN

			YEAR													
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
HAT ISLAND	HERRING GULL	N				9										
		MEAN				.2663										
		STD				.0915										
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10	9		1	1
		MEAN					0.119	0.107	0.196	0.167	.0436	0.025	.0356		0.074	.1043
		STD					.0599	.0476	0.086	.0629	.0304	.0178	0.024			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					0.202									
		STD					.0531									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												0.152		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										0.02				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										0.04				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										0.03				
		STD														
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				.3077										
		STD				.1964										
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	10	1	1	1
		MEAN	0.983	0.696	0.272		0.144	0.09	0.169	0.077	0.022	0.06	0.102	0.081	.1338	.0467
		STD	.4331	.2066	.1855		0.049	.0678	.0468	.0177	.0063	.0254	0.023			
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										0.03				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
MAGGAINSE HARBOR	HERRING GULL	N		10	10		10	8								
		MEAN		.3774	0.323		.1224	.0975								
		STD		.2149	.2993		.0927	.1004								
AGAWA ROCK	HERRING GULL	N						10	10	10	10	10	11	10	10	1
		MEAN						0.1	0.086	0.154	0.054	0.107	.0245	0.015	0.07	0.075
		STD						0.044	.0443	.1343	0.025	.0514	.0197	.0053	.0163	
GRANITE ISLAND	HERRING GULL	N	2	9		10		10	10	10	10	10		10	10	1
		MEAN	.1445	.3702		.0362		0.12	0.094	0.127	0.024	0.155		0.02	0.044	0.085
		STD	.1082	.1986		.0392		0.051	.0589	.0525	.0135	.0726		.0094	.0267	
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N											1			
		MEAN											0.01			
		STD														
SILVER ISLET	HERRING GULL	N	2		10		10									
		MEAN	.2635		.1122		.0969									
		STD	.0361		.0551		.0538									
GULL ISLAND	HERRING GULL	N											1			
		MEAN											0.02			
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DDT, LAKE SUPERIOR

			YEAR	
			87	88
AGAWA ROCK	HERRING GULL	N	1	1
		MEAN	.0332	.0963
		STD		
GRANITE ISLAND	HERRING GULL	N	1	1
		MEAN	0.075	0.072
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SNAKE ISLAND	HERRING GULL	N							10	10	10	10	10	10	11	10
		MEAN							0.503	0.279	0.189	0.197	0.27	0.267	.2145	0.282
		STD							.0978	.0997	.0968	.0865	.1642	.0698	.1072	.2056
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10									
		MEAN			.4075	0.471	0.347									
		STD			.2237	.2492	.1962									
PIGEON ISLAND	HERRING GULL	N		1									10	10		
		MEAN		0.75									0.349	0.335		
		STD											.1031	.0851		
	BLACK-CROWNED NIGHT-HERON	N		1										12		
		MEAN		0.28										.2833		
		STD												.4945		
LITTLE GALLOO ISLAND	HERRING GULL	N											10	10		
		MEAN											0.317	0.36		
		STD											.1151	.2609		
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												0.24		
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N						15		8				1		
		MEAN						0.37		.3525				0.53		
		STD						.1509		0.134						
	DOUBLE-CRESTED CORMORANT	N		7			1									
		MEAN		.2686			0.02									
		STD		.1567												
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	4	19		11		10		
		MEAN						0.216	0.445	.4237		.3382		0.314		
		STD						.1242	.1196	.2572		.3557		.1141		
	COMMON TERN	N					4									
		MEAN					0.5									
		STD					.2617									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
LESLIE SPIT	HERRING GULL	N								4						
		MEAN								0.275						
		STD								.0265						
TORONTO ISLANDS	COMMON TERN	N			6											
		MEAN			0.34											
		STD			.2211											
MUGGS ISLAND	HERRING GULL	N				9	10		10	4	10	9	10	9	11	10
		MEAN				.4589	0.241		0.276	.2175	0.221	.1789	0.28	.2922	.1436	0.132
		STD				.1267	.1652		.0786	.0618	.1322	.1025	0.209	.2096	0.101	0.052
	COMMON TERN	N		5												
		MEAN		0.408												
		STD		.2602												
	RING-BILLED GULL	N									24					
		MEAN									.5221					
		STD									.2546					
HAMILTON HARBOUR	HERRING GULL	N											10	1		1
		MEAN											0.264	0.2		0.2
		STD											.0638			
	COMMON TERN	N	25													
		MEAN	.5476													
		STD	.2455													
	RING-BILLED GULL	N														10
		MEAN														0.409
		STD														.2563

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR			
			85	86	87	88
STRACHAN ISLAND	HERRING GULL	N		1		1
		MEAN		0.16		.1258
		STD				
SNAKE ISLAND	HERRING GULL	N	10	10	1	1
		MEAN	0.182	.1824	0.148	.1798
		STD	.0535	.1109		
LESLIE SPIT	HERRING GULL	N				1
		MEAN				.1205
		STD				
MUGGS ISLAND	HERRING GULL	N	10	10	1	
		MEAN	0.125	.1352	.1147	
		STD	.0321	.0426		
HAMILTON HARBOUR	HERRING GULL	N		1	1	
		MEAN		0.171	.1139	
		STD				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR													
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
NIAGARA RIVER	HERRING GULL	N							10		10	1	11	10	10	10
		MEAN							0.201		0.238	0.15	0.22	0.271	0.195	.1688
		STD							.0769		.1485		0.05	.2146	.0515	.0728
	BLACK-CROWNED NIGHT-HERON	N										1				1
		MEAN										0.31				0.218
		STD														
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6												
		MEAN		0.235												
		STD		.1131												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	10	10	9	10	1	11	10	10	1
		MEAN			0.37	0.377	0.502	0.278	0.244	.2656	0.244	0.36	.1727	0.341	0.157	0.204
		STD			.1288	.1384	.2561	.0913	.0829	.1308	.0866		.0775	.2477	0.056	
	COMMON TERN	N	4	2												
		MEAN	.2625	0.25												
		STD	.0665	.0707												
MOHAWK ISLAND	HERRING GULL	N						10								
		MEAN						0.322								
		STD						.2443								
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N														1
		MEAN														0.127
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N							10							
		MEAN							0.274							
		STD							.1226							
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10	10	10	10	10	10	1
		MEAN			0.339	0.275	0.306	0.21	0.265	0.156	0.197	0.24	0.235	0.316	0.22	0.256
		STD			0.138	.1705	.0858	.0648	.1078	.0558	.0506	.1185	.0472	.2715	.0613	
	BLACK-CROWNED NIGHT-HERON	N										10				1
		MEAN										0.111				0.034
		STD										.0901				
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18						10				1			
		MEAN	.2328						0.261				0.25			
		STD	.1399						.1622							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
MIDDLE SISTER ISLAND	HERRING GULL	N						44								
		MEAN						.2170								
		STD						0.075								
FIGHTING ISLAND	HERRING GULL	N	2					11	45		10	20	11	10	10	1
		MEAN	0.27					.1818	.1638		0.2	0.222	.2018	0.231	0.153	0.085
		STD	.1131					.0649	.0829		.1224	.1511	.0984	0.054	.0867	
	COMMON TERN	N	3						10							
		MEAN	.2267						0.093							
		STD	0.194						.0343							
	RING-BILLED GULL	N							10					10		
		MEAN							0.355					0.276		
		STD							.1697					.1423		
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N														1
		MEAN														0.067
		STD														
	FORSTERS TERN	N														1
		MEAN														0.133
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
NIAGARA RIVER	HERRING GULL	N	1	1
		MEAN	.1427	.1732
		STD		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1
		MEAN	.1373	.1802
		STD	.0607	
MIDDLE ISLAND	HERRING GULL	N	10	1
		MEAN	.1435	.1654
		STD	.1072	
FIGHTING ISLAND	HERRING GULL	N	10	1
		MEAN	.0911	0.152
		STD	.0317	
ST. CLAIR RIVER	HERRING GULL	N	1	
		MEAN	.1737	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
CHANTRY ISLAND	HERRING GULL	N					10	10		10	15	10	10	10	10	11
		MEAN					0.471	0.31		0.574	.2387	0.278	0.232	0.251	0.291	.1973
		STD					0.176	.1955		.2491	.1339	.0899	.0718	.0926	.2092	0.06
	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													0.11	
		STD														
KETTLE POINT	COMMON TERN	N			2											
		MEAN			0.2											
		STD			.0141											
CHANNEL SHELTER ISLAND	HERRING GULL	N												10	10	11
		MEAN												0.175	0.315	.1573
		STD												.0814	.1697	.0559
WALLIS ROCK	DOUBLE-CRESTED CORMORANT	N		2	3	1										
		MEAN		0.465	.1233	0.53										
		STD		.1202	.1358											
SOUTH LIMESTONE ISLAND	HERRING GULL	N							2							
		MEAN							0.49							
		STD							.0283							
	CASPIAN TERN	N			1											
		MEAN			0.08											
		STD														
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	7	8												
		MEAN	.7036	.4646												
		STD	0.645	0.278												
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N			3											
		MEAN			0.29											
		STD			.1609											
GULL ROCK	DOUBLE-CRESTED CORMORANT	N			9			1								
		MEAN			.4133			0.23								
		STD			.3633											
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N		7	2			1								
		MEAN		.5571	0.5			0.16								
		STD		0.356	.5798											

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
DOUBLE ISLAND	HERRING GULL	N					10	10		10	10	10	10	10	10	11
		MEAN					0.534	0.413		0.506	0.224	0.316	0.239	0.23	0.262	.2455
		STD					0.156	.1831		.2351	.1242	.1764	.1775	.0945	.1168	.1449
TALON ROCK	DOUBLE-CRESTED CORMORANT	N		3	1											
		MEAN		.3933	0.01											
		STD		.1069												
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				1		2				9				
		MEAN				0.49		0.525				.2767				
		STD						.2616				.1618				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	0.186	0.286	0.238	.1001	.2086
		STD	.0789	.0817			.0465
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	10	1	1	16
		MEAN	0.229	0.207	0.177	.1922	.1856
		STD	.0964	0.075			0.076
DOUBLE ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	0.251	0.323	0.174	.3309	.2437
		STD	.0697	0.192			.1076
PUMPKIN POINT	HERRING GULL	N		10	1		
		MEAN		0.281	0.196		
		STD		.1316			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, LAKE MICHIGAN

			YEAR												
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
HAT ISLAND	HERRING GULL	N				9										
		MEAN				.7211										
		STD				.5993										
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10	9		1	1
		MEAN					0.83	0.716	0.748	0.876	.6827	0.411	.3989		.3271	.5464
		STD					.3653	.3151	0.34	.2814	.3296	.1269	.1405			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					0.892									
		STD					.3799									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												0.488		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										0.38				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										0.7				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										0.46				
		STD														
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				0.646										
		STD				.2114										
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	10	1	1	1
		MEAN	0.832	0.593	0.82		0.904	0.544	0.654	0.747	0.529	0.639	0.536	0.281	.8502	.5551
		STD	.3813	.3482	.3531		.5749	.3157	.2193	.3793	0.142	.2331	.1519	.		
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										0.49				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
CHENE ISLAND	HERRING GULL	N											1			
		MEAN											0.247			
		STD														
MAMMAINSE HARBOR	HERRING GULL	N		10	10		10	8								
		MEAN		0.419	0.319		0.403	.3975								
		STD		.1489	.1081		.1702	.4333								
AGAWA ROCK	HERRING GULL	N						10	10	10	10	10	12	10	10	1
		MEAN						0.422	0.559	0.351	0.494	0.344	.3288	0.34	0.356	0.316
		STD						.1812	.3131	.2088	.3158	.1541	.1245	0.08	0.117	
LEADMAN ISLANDS	HERRING GULL	N											1			
		MEAN											0.46			
		STD														
HURON ISLAND	HERRING GULL	N											1			
		MEAN											0.32			
		STD														
LAKE LINDEN	HERRING GULL	N											1			
		MEAN											0.301			
		STD														
GRANITE ISLAND	HERRING GULL	N	2	9		10		10	10	10	10	10		10	10	1
		MEAN	0.27	.6133		0.486		0.389	0.642	0.334	0.383	0.435		0.371	0.275	0.366
		STD	.1414	.1695		.1772		.1731	.5345	.1155	.1933	.2306		.1445	.0954	
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N											1			
		MEAN											0.4			
		STD														
PAPOOSE ISLAND	HERRING GULL	N											1			
		MEAN											0.376			
		STD														
SILVER ISLET	HERRING GULL	N	2		10		10									
		MEAN	0.435		0.44		0.353									
		STD	.1485		.3355		.1636									
GULL ISLAND	HERRING GULL	N											2			
		MEAN											.5455			
		STD											.1054			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, LAKE SUPERIOR

			YEAR											
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
KNIFE ISLAND	HERRING GULL	N											1			
		MEAN											0.224			
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

DIELDRIN, LAKE SUPERIOR

			YEAR	
			87	88
AGAWA ROCK	HERRING GULL	N	1	1
		MEAN	.1286	.3737
		STD		
GRANITE ISLAND	HERRING GULL	N	1	1
		MEAN	.2638	.3101
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	74	76	77	78	79	80	81	82	83	84	85	86
STRACHAN ISLAND	HERRING GULL	N														1
		MEAN														57
		STD														
SNAKE ISLAND	HERRING GULL	N									1	1	1	1	1	1
		MEAN									185	129	90	101	67	65
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1				
		MEAN	1996	2347	923	489	518	261	169	170	229	204				
		STD														
MUGGS ISLAND	HERRING GULL	N												1	1	1
		MEAN												60	39	49
		STD														
HAMILTON HARBOUR	HERRING GULL	N												1		1
		MEAN												50		44
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR	
			87	88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		50
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	80	47
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		40
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	45	
		STD		
HAMILTON HARBOUR	HERRING GULL	N	1	
		MEAN	49	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZO-P-DIOXIN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR							
			81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	87	69	19	41	41	40	23	12
		STD								
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N				1	1	1	1	1
		MEAN				32	17	32	15	17
		STD								
MIDDLE ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	25	20	9	12	15	16	21	12
		STD								
FIGHTING ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	49	35	26	33	23	16	14	20
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZO-P-DIOXIN, LAKE HURON

			YEAR							
			81	82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	45	61	15	30	24	22	14	14
		STD								
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	155	214	141	99	87	88	137	86
		STD								
DOUBLE ISLAND	HERRING GULL	N				1	1	1	1	1
		MEAN				28	37	31	27	19
		STD								
PUMPKIN POINT	HERRING GULL	N					1	1		
		MEAN					4	15		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all other measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			YEAR											
			71	72	73	74	76	77	80	81	82	83	84	85	86
GULL ISLAND	HERRING GULL	N								1	1	1	1	1	
		MEAN								58	23	10	12	12	
		STD													
TROUT ISLAND	HERRING GULL	N													1
		MEAN													20
		STD													
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1		1		1	1	1
		MEAN	249	70	58	40	54	60	24		45		18	14	17
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			YEAR	
			87	88
GULL ISLAND	HERRING GULL	N	1	1
		MEAN	17	14
		STD		
BIG SISTER ISLAND	HERRING GULL	N	1	1
		MEAN	26	10
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZO-P-DIOXIN, LAKE SUPERIOR

			YEAR							
			81	82	83	84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	79	51	13	18	16	28	37	19
		STD								
GRANITE ISLAND	HERRING GULL	N				1	1	1	1	1
		MEAN				14	19	18	16	16
		STD								
GULL ISLAND	HERRING GULL	N						1		
		MEAN						16		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

12378-PENTACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	74	76	77	78	79	80	81	82	83	84	85	86
STRACHAN ISLAND	HERRING GULL	N														1
		MEAN														
		STD														9
SNAKE ISLAND	HERRING GULL	N									1	1	1	1	1	1
		MEAN														
		STD									6	11	10	14	8	10
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1				
		MEAN	58	65	24	19	22	10	7	10	9	15				
		STD														
MUGGS ISLAND	HERRING GULL	N												1	1	1
		MEAN														
		STD												10	5	11
HAMILTON HARBOUR	HERRING GULL	N												1		1
		MEAN														
		STD												9		8

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

12378-PENTACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR	
			87	88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		5
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	6	7
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		7
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	5	
		STD		
HAMILTON HARBOUR	HERRING GULL	N	1	
		MEAN	7	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

12378-PENTACHLORODIBENZO-P-DIOXIN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR							
			81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	12	10	5	14	12	10	6	4
		STD								
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N				1	1	1	1	1
		MEAN				9	8	9	5	6
		STD								
MIDDLE ISLAND	HERRING GULL	N	1	1	1	1	1	1		1
		MEAN	16	10	10	12	14	14		8
		STD								
FIGHTING ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	28	17	9	15	10	8	5	10
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

12378-PENTACHLORODIBENZO-P-DIOXIN, LAKE HURON

			YEAR							
			81	82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	20	17	9	12	17	13	5	5
		STD								
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	39	55	35	27	29	25	27	23
		STD								
DOUBLE ISLAND	HERRING GULL	N				1	1	1	1	1
		MEAN				12	19	17	8	7
		STD								
PUMPKIN POINT	HERRING GULL	N					1	1		
		MEAN					3	3		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

12378-PENTACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			YEAR											
			71	72	73	74	76	77	80	81	82	83	84	85	86
GULL ISLAND	HERRING GULL	N								1	1	1	1	1	
		MEAN								31	26	8	13	11	
		STD													
TROUT ISLAND	HERRING GULL	N													1
		MEAN													23
		STD													
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1		1		1	1	1
		MEAN	38	31	28	25	31	25	17		20		20	13	23
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

12378-PENTACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			YEAR	
			87	88
GULL ISLAND	HERRING GULL	N	1	1
		MEAN	7	14
		STD		
BIG SISTER ISLAND	HERRING GULL	N	1	1
		MEAN	21	9
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

12378-PENTACHLORODIBENZO-P-DIOXIN, LAKE SUPERIOR

			YEAR							
			81	82	83	84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	21	18	8	10	13	17	5	12
		STD								
GRANITE ISLAND	HERRING GULL	N				1	1	1	1	1
		MEAN				13	12	12	9	13
		STD								
GULL ISLAND	HERRING GULL	N						1		
		MEAN						11		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	74	76	77	78	79	80	81	82	83	84	85	86
STRACHAN ISLAND	HERRING GULL	N														1
		MEAN														13
		STD														
SNAKE ISLAND	HERRING GULL	N									1	1	1	1	1	1
		MEAN									20	14	17	20	9	11
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1				
		MEAN	47	45	31	28	30	25	18	19	22	49				
		STD														
MUGGS ISLAND	HERRING GULL	N												1	1	1
		MEAN												20	12	7
		STD														
HAMILTON HARBOUR	HERRING GULL	N												1		1
		MEAN												15		14
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAREAR	
			87	88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		9
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	10	6
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		15
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	9	
		STD		
HAMILTON HARBOUR	HERRING GULL	N	1	
		MEAN	11	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZO-P-DIOXIN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR							
			81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	22	14	14	15	11	10	9	6
		STD								
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N				1	1	1	1	1
		MEAN				11	12	12	6	10
		STD								
MIDDLE ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	22	13	14	18	19	22	13	7
		STD								
FIGHTING ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	65	24	23	31	18	18	13	20
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZO-P-DIOXIN, LAKE HURON

			YEAR							
			81	82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	26	17	12	14	12	11	5	4
		STD								
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	42	71	61	35	35	37	30	30
		STD								
DOUBLE ISLAND	HERRING GULL	N				1	1	1	1	1
		MEAN				11	18	21	6	7
		STD								
PUMPKIN POINT	HERRING GULL	N					1	1		
		MEAN					6	5		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			YEAR											
			71	72	73	74	76	77	80	81	82	83	84	85	86
GULL ISLAND	HERRING GULL	N								1	1	1	1	1	
		MEAN								32	24	9	12	10	
		STD													
TROUT ISLAND	HERRING GULL	N													1
		MEAN													20
		STD													
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1		1		1	1	1
		MEAN	69	52	53	40	47	45	23		31		23	19	33
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			86	87
GULL ISLAND	HERRING GULL	N	1	1
		MEAN	11	17
		STD		
BIG SISTER ISLAND	HERRING GULL	N	1	1
		MEAN	29	15
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZO-P-DIOXIN, LAKE SUPERIOR

			YEAR							
			81	82	83	84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	30	24	8	10	10	14	10	12
		STD								
GRANITE ISLAND	HERRING GULL	N				1	1	1	1	1
		MEAN				14	15	15	10	15
		STD								
GULL ISLAND	HERRING GULL	N						1		
		MEAN						14		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234678-HEPTACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR										
			71	72	76	77	78	79	81	84	85	86	87	88
STRACHAN ISLAND	HERRING GULL	N										1		1
		MEAN										6		6
		STD												
SNAKE ISLAND	HERRING GULL	N												
		MEAN								1	1	1	1	1
		STD								5	6	6	6	3
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1					
		MEAN	8	8	9	8	8	8	8					
		STD												
LESLIE ST. SPIT	HERRING GULL	N												
		MEAN												1
		STD												8
MUGGS ISLAND	HERRING GULL	N												
		MEAN								1	1	1		
		STD								10	6	6		
HAMILTON HARBOUR	HERRING GULL	N												
		MEAN								1		1		
		STD								6		6		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234678-HEPTACHLORODIBENZO-P-DIOXIN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR							
			81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	8	8	8	5	6	6	6	2
		STD								
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N				1	1	1	1	1
		MEAN				9	6	6	6	2
		STD								
MIDDLE ISLAND	HERRING GULL	N				1	1	1		1
		MEAN				5	6	6		3
		STD								
FIGHTING ISLAND	HERRING GULL	N				1	1	1		1
		MEAN				5	6	7		5
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234678-HEPTACHLORODIBENZO-P-DIOXIN, LAKE HURON

			YEAR							
			81	82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N		1	1	1	1	1	1	1
		MEAN		8	8	5	6	6	6	2
		STD								
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	8	8	11	7	9	7	6	9
		STD								
DOUBLE ISLAND	HERRING GULL	N				1	1	1	1	1
		MEAN				5	8	6	6	3
		STD								
PUMPKIN POINT	HERRING GULL	N					1	1		
		MEAN					6	6		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234678-HEPTACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			YEAR												
			71	72	73	74	76	77	80	82	84	85	86	87	88
GULL ISLAND	HERRING GULL	N									1			1	1
		MEAN									5			6	4
		STD													
TROUT ISLAND	HERRING GULL	N											1		
		MEAN											6		
		STD													
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1		1	1	1	1
		MEAN	12	6	9	5	6	7	6	6		6	6	6	3
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

1234678-HEPTACHLORODIBENZO-P-DIOXIN, LAKE SUPERIOR

			YEAR							
			81	82	83	84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	8	8	8	5	6	6	6	2
		STD								
GRANITE ISLAND	HERRING GULL	N				1	1	1	1	1
		MEAN				5	5	6	6	4
		STD								
GULL ISLAND	HERRING GULL	N						1		
		MEAN						6		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			71	72	74	76	77	78	79	80	81	82	83	84	85	86
STRACHAN ISLAND	HERRING GULL	N														1
		MEAN														10
		STD														
SNAKE ISLAND	HERRING GULL	N									1	1	1	1	1	1
		MEAN									10	14	24	20	6	10
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1				
		MEAN	22	22	10	115	12	13	33	16	18	10				
		STD														
MUGGS ISLAND	HERRING GULL	N												1	1	1
		MEAN												14	10	10
		STD														
HAMILTON HARBOUR	HERRING GULL	N												1		1
		MEAN												12		10
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLORODIBENZO-P-DIOXIN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR	
			87	88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		9
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	10	7
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		11
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	10	
		STD		
HAMILTON HARBOUR	HERRING GULL	N	1	
		MEAN	10	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLORODIBENZO-P-DIOXIN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR							
			81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	1	1	1	1		1	1
		MEAN	10	10	10	6	10		10	3
		STD								
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N				1	1	1		1
		MEAN				15	10	10		4
		STD								
MIDDLE ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	20	10	10	13	10	10	10	3
		STD								
FIGHTING ISLAND	HERRING GULL	N	1			1	1	1	1	1
		MEAN	21			16	10	10	10	8
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLORODIBENZO-P-DIOXIN, LAKE HURON

			YEAR							
			81	82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1	1	1	1	1		1
		MEAN	10	11	12	12	10	10		3
		STD								
CHANNEL SHELTER ISLAND	HERRING GULL	N	1		1	1	1	1	1	1
		MEAN	77		15	29	31	10	17	21
		STD								
DOUBLE ISLAND	HERRING GULL	N				1	1	1		1
		MEAN				8	10	10		5
		STD								
PUMPKIN POINT	HERRING GULL	N					1	1		
		MEAN					10	10		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			YEAR											
			71	72	73	74	76	77	80	81	82	83	84	85	86
GULL ISLAND	HERRING GULL	N								1	1	1	1	1	
		MEAN								21	10	10	8	10	
		STD													
TROUT ISLAND	HERRING GULL	N													1
		MEAN													10
		STD													
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1		1		1	1	1
		MEAN	40	109	92	36	39	62	31		31		21	10	10
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLORODIBENZO-P-DIOXIN, LAKE MICHIGAN

			87	88
GULL ISLAND	HERRING GULL	N		1
		MEAN		4
		STD		
BIG SISTER ISLAND	HERRING GULL	N	1	1
		MEAN	10	5
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLORODIBENZO-P-DIOXIN, LAKE SUPERIOR

			YEAR							
			81	82	83	84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1	1	1	1	1	1
		MEAN	14	30	10	7	10	10	10	3
		STD								
GRANITE ISLAND	HERRING GULL	N				1	1	1		1
		MEAN				10	10	10		2
		STD								
GULL ISLAND	HERRING GULL	N						1		
		MEAN						10		
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZOFURAN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR										
			71	72	74	76	77	79	80	81	84	86	87	88
STRACHAN ISLAND	HERRING GULL	N												1
		MEAN												ND
		STD												
SNAKE ISLAND	HERRING GULL	N												
		MEAN									1		1	1
		STD									2		2	1
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1				
		MEAN	5	6	3	2	3	2	2	2				
		STD												
LESLIE ST. SPIT	HERRING GULL	N												
		MEAN												1
		STD												ND
MUGGS ISLAND	HERRING GULL	N												
		MEAN									1	1		
		STD									2	2		
HAMILTON HARBOUR	HERRING GULL	N												
		MEAN									1			
		STD									2			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZOFURAN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR				
			84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1			1	1
		MEAN	2			2	ND
		STD					
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1				1
		MEAN	5				ND
		STD					
MIDDLE ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	3	2	2	2	1
		STD					
FIGHTING ISLAND	HERRING GULL	N	1				1
		MEAN	3				1
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZOFURAN, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1			1
		MEAN	3	2			2
		STD					
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	5	2	2	3	6
		STD					
DOUBLE ISLAND	HERRING GULL	N	1		1	1	1
		MEAN	4		2	2	1
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZOFURAN, LAKE MICHIGAN

			YEAR												
			71	72	73	74	76	77	80	82	84	85	86	87	88
GULL ISLAND	HERRING GULL	N									1	1		1	1
		MEAN									4	2		2	1
		STD													
TROUT ISLAND	HERRING GULL	N													
		MEAN											1		
		STD											2		
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1	1	1	
		MEAN	2	2	3	2	3	2	3	3	8	2	2	3	
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

2378-TETRACHLORODIBENZOFURAN, LAKE SUPERIOR

			YEAR				
			84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1	1	1
		MEAN	5	2	2	2	2
		STD					
GRANITE ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	3	2	2	2	1
		STD					
GULL ISLAND	HERRING GULL	N			1		
		MEAN			2		
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

23478-PENTACHLORODIBENZOFURAN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR											
			71	72	74	76	77	78	79	80	81	82	84	85	86
STRACHAN ISLAND	HERRING GULL	N													1
		MEAN													9
		STD													
SNAKE ISLAND	HERRING GULL	N											1	1	1
		MEAN											8	8	8
		STD													
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1			
		MEAN	70	77	25	16	22	11	7	8	8	12			
		STD													
MUGGS ISLAND	HERRING GULL	N											1	1	1
		MEAN											11	4	6
		STD													
HAMILTON HARBOUR	HERRING GULL	N											1		1
		MEAN											10		7
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

23478-PENTACHLORODIBENZOFURAN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR	
			87	88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		5
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	5	5
		STD		
SCOTCH BONNET ISLAND	HERRING GULL	N		
		MEAN		
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		5
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	5	
		STD		
HAMILTON HARBOUR	HERRING GULL	N	1	
		MEAN	7	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

23478-PENTACHLORODIBENZOFURAN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR				
			84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	1	1	1	1
		MEAN	17	10	9	7	5
		STD					
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1	1	1	1	1
		MEAN	24	5	6	3	6
		STD					
MIDDLE ISLAND	HERRING GULL	N	1	1	1		1
		MEAN	10	10	9		5
		STD					
FIGHTING ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	22	8	7	5	7
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

23478-PENTACHLORODIBENZOFURAN, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	18	17	9	5	7
		STD					
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	29	25	22	24	23
		STD					
DOUBLE ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	14	12	12	6	6
		STD					
PUMPKIN POINT	HERRING GULL	N		1	1		
		MEAN		3	3		
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

23478-PENTACHLORODIBENZOFURAN, LAKE MICHIGAN

			YEAR											
			71	72	73	74	76	77	80	82	84	85	86	87	88
GULL ISLAND	HERRING GULL	N									1	1		1	1
		MEAN									17	9		7	11
		STD													
TROUT ISLAND	HERRING GULL	N											1		
		MEAN											17		
		STD													
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1	1	1	1
		MEAN	23	22	16	15	15	12	13	11	21	9	9	11	8
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

23478-PENTACHLORODIBENZOFURAN, LAKE SUPERIOR

			YEAR				
			84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1	1	1
		MEAN	17	3	14	6	12
		STD					
GRANITE ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	21	9	8	7	10
		STD					
GULL ISLAND	HERRING GULL	N			1		
		MEAN			8		
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123478-/ 123467-HEXACHLORODIBENZOFURAN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR											
			71	72	74	76	77	78	79	80	81	82	84	85	86
STRACHAN ISLAND	HERRING GULL	N													1
		MEAN													4
		STD													
SNAKE ISLAND	HERRING GULL	N											1	1	1
		MEAN											5	4	4
		STD													
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1			
		MEAN	28	38	16	9	19	7	8	7	10	8			
		STD													
MUGGS ISLAND	HERRING GULL	N											1	1	1
		MEAN											5	4	4
		STD													
HAMILTON HARBOUR	HERRING GULL	N											1		1
		MEAN											5		4
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123478-/ 123467-HEXACHLORODIBENZOFURAN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR	
			87	88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		ND
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	5	ND
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		3
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	4	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123478-/ 123467-HEXACHLORODIBENZOFURAN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR				
			84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	1	1		1
		MEAN	9	5	4		ND
		STD					
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1	1	1		1
		MEAN	9	4	4		2
		STD					
MIDDLE ISLAND	HERRING GULL	N	1	1		1	1
		MEAN	9	4		4	ND
		STD					
FIGHTING ISLAND	HERRING GULL	N	1	1			1
		MEAN	9	4			ND
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123478-/ 123467-HEXACHLORODIBENZOFURAN, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	5	4	4	4	ND
		STD					
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	9	6	6	7	3
		STD					
DOUBLE ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	4	4	4	4	ND
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123478-/ 123467-HEXACHLORODIBENZOFURAN, LAKE MICHIGAN

			YEAR										
			71	74	76	77	80	82	84	85	86	87	88
GULL ISLAND	HERRING GULL	N								1		1	1
		MEAN								4		4	ND
		STD											
TROUT ISLAND	HERRING GULL	N									1		
		MEAN									4		
		STD											
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1	1
		MEAN	4	4	4	4	4	4	4	4	4	4	ND
		STD											

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123478-/ 123467-HEXACHLORODIBENZOFURAN, LAKE SUPERIOR

			YEAR				
			84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1		1
		MEAN	4	4	4		2
		STD					
GRANITE ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	3	4	4	4	ND
		STD					
GULL ISLAND	HERRING GULL	N			1		
		MEAN			4		
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZOFURAN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			71	72	74	76	77	78	79	80	81	82	84	85	86
STRACHAN ISLAND	HERRING GULL	N													1
		MEAN													4
		STD													
SNAKE ISLAND	HERRING GULL	N											1	1	1
		MEAN											5	4	4
		STD													
SCOTCH BONNET ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1			
		MEAN	20	28	13	9	14	6	7	7	10	8			
		STD													
MUGGS ISLAND	HERRING GULL	N											1	1	1
		MEAN											6	4	5
		STD													
HAMILTON HARBOUR	HERRING GULL	N											1		1
		MEAN											4		4
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZOFURAN, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR	
			87	88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		ND
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	5	ND
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		4
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	4	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZOFURAN, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR				
			84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	1	1	1	1
		MEAN	9	4	4	4	ND
		STD					
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1	1	1	1	1
		MEAN	10	4	4	4	2
		STD					
MIDDLE ISLAND	HERRING GULL	N	1		1	1	1
		MEAN	10		4	4	ND
		STD					
FIGHTING ISLAND	HERRING GULL	N	1	1			1
		MEAN	9	4			ND
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZOFURAN, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	6	4	4	4	ND
		STD					
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	12	9	9	11	2
		STD					
DOUBLE ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	4	6	4	4	ND
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZOFURAN, LAKE MICHIGAN

			YEAR											
			71	72	73	74	76	77	80	82	84	85	86	87	88
GULL ISLAND	HERRING GULL	N									1	1		1	1
		MEAN									4	4		4	ND
		STD													
TROUT ISLAND	HERRING GULL	N											1		
		MEAN											4		
		STD													
BIG SISTER ISLAND	HERRING GULL	N	1	1	1	1	1	1	1	1	1	1	1	1	1
		MEAN	5	6	4	5	4	4	4	5	4	4	4	4	ND
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

123678-HEXACHLORODIBENZOFURAN, LAKE SUPERIOR

			YEAR				
			84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1		1
		MEAN	4	4	4		2
		STD					
GRANITE ISLAND	HERRING GULL	N	1	1	1	1	1
		MEAN	4	4	4	4	ND
		STD					
GULL ISLAND	HERRING GULL	N			1		
		MEAN			4		
		STD					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SNAKE ISLAND	HERRING GULL	N							10	10	10	10	10	10	11	10
		MEAN							0.142	0.093	0.071	0.089	0.136	0.121	.1255	0.109
		STD							.0339	.0263	.0179	.0357	.0629	.0292	.0491	.0498
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10									
		MEAN			.0956	0.171	0.142									
		STD			.0722	.0941	.0394									
PIGEON ISLAND	HERRING GULL	N		1									8	10		
		MEAN		0.5									.1438	0.118		
		STD											.0463	.0204		
	BLACK-CROWNED NIGHT-HERON	N		1										12		
		MEAN		.0005										.0475		
		STD												.0214		
LITTLE GALLOO ISLAND	HERRING GULL	N											10	10		
		MEAN											0.123	0.105		
		STD											.0419	.0513		
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												0.04		
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N						15		8				1		
		MEAN						0.144		0.17				0.16		
		STD						.0623		.0421						
	DOUBLE-CRESTED CORMORANT	N		7			1									
		MEAN		.0357			0.005									
		STD		.0079												
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	4	19		11		10		
		MEAN						0.064	0.19	.2037		.2127		0.126		
		STD						.0195	.0523	.0826		.0976		.0546		
	COMMON TERN	N					4									
		MEAN					.0625									
		STD					.0525									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
LESLIE ST. SPIT	HERRING GULL	N								4						
		MEAN								.1125						
		STD								.0126						
TORONTO ISLANDS	COMMON TERN	N			6											
		MEAN			.0583											
		STD			.0564											
MUGGS ISLAND	HERRING GULL	N				9	10		9	4	8	9	10	9	11	10
		MEAN				.1389	0.029		0.07	0.085	.0625	0.09	0.095	.0933	.0409	0.058
		STD				.0226	.0129		.0354	.0311	.0128	.0361	.0299	.0287	.0284	.0155
	COMMON TERN	N		5												
		MEAN		0.236												
		STD		.1598												
	RING-BILLED GULL	N									24					
		MEAN									.0804					
		STD									.0505					
HAMILTON HARBOUR	HERRING GULL	N											8	1		1
		MEAN											.1162	0.1		0.04
		STD											0.02			
	COMMON TERN	N	25													
		MEAN	.0984													
		STD	.0425													
	RING-BILLED GULL	N														10
		MEAN														0.107
		STD														.0492

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR			
			85	86	87	88
STRACHAN ISLAND	HERRING GULL	N		1		1
		MEAN		0.089		.0645
		STD				
SNAKE ISLAND	HERRING GULL	N	10	10	1	1
		MEAN	0.099	0.093	.0815	0.119
		STD	.0345	.0549		
LESLIE ST. SPIT	HERRING GULL	N				1
		MEAN				.0667
		STD				
MUGGS ISLAND	HERRING GULL	N	10	10	1	
		MEAN	0.062	.0782	.0542	
		STD	.0132	.0138		
HAMILTON HARBOUR	HERRING GULL	N		1	1	
		MEAN		0.081	.0687	
		STD				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR												
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
NIAGARA RIVER	HERRING GULL	N							10		10	1	11	10	10	10
		MEAN							0.09		0.106	0.12	.1582	0.097	0.075	.0906
		STD							0.017		.0327		0.059	.0383	.0172	.0273
	BLACK-CROWNED NIGHT-HERON	N										1				1
		MEAN										0.06				0.068
		STD														
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6												
		MEAN		.0383												
		STD		.0172												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	10	10	9	6	1	11	10	10	1
		MEAN			0.158	0.151	0.096	0.094	0.082	.1278	0.09	0.17	.0664	0.129	0.114	0.121
		STD			.0349	0.037	.0583	.0306	.0148	.0567	.0167		.0317	.0436	.0184	
	COMMON TERN	N	4	2												
		MEAN	.0525	0.04												
		STD	.0206	.0141												
MOHAWK ISLAND	HERRING GULL	N						10								
		MEAN						0.112								
		STD						.0471								
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N														1
		MEAN														0.039
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N							9							
		MEAN							.1344							
		STD							.0513							
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10	9	10	10	10	10	1
		MEAN			0.164	0.11	0.152	0.089	0.11	0.14	.1122	0.112	0.147	0.113	0.104	0.143
		STD			.0448	.0485	.0333	.0137	.0245	.0362	.0299	.0454	.0386	.0263	.0165	
	BLACK-CROWNED NIGHT-HERON	N										10				1
		MEAN										0.039				0.021
		STD										.0208				
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18						10				1			
		MEAN	.0222						0.091				0.05			
		STD	.0081						0.089							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR													
			72	73	74	75	77	78	79	80	81	82	83	84	85	86
MIDDLE SISTER ISLAND	HERRING GULL	N						44								
		MEAN						.0941								
		STD						.0303								
FIGHTING ISLAND	HERRING GULL	N	2					11	37		6	20	11	10	10	1
		MEAN	0.08					.0955	0.077		0.09	0.093	.0791	0.096	0.061	0.07
		STD	.0141					.0398	.0225		.0261	.0303	.0266	.0241	.0202	
	COMMON TERN	N	3						10							
		MEAN	.0533						0.02							
		STD	.0586						.0067							
	RING-BILLED GULL	N							10					10		
		MEAN							0.06					0.061		
		STD							.0205					.0202		
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N														1
		MEAN														0.023
		STD														
	FORSTERS TERN	N														1
		MEAN														0.044
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
NIAGARA RIVER	HERRING GULL	N	1	1
		MEAN	.0719	.0706
		STD		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1
		MEAN	.0845	.0951
		STD	.0246	
MIDDLE ISLAND	HERRING GULL	N	10	1
		MEAN	.0768	.1142
		STD	.0143	
FIGHTING ISLAND	HERRING GULL	N	10	1
		MEAN	.0545	.1053
		STD	.0213	
ST. CLAIR RIVER	HERRING GULL	N	1	
		MEAN	.0904	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
CHANTRY ISLAND	HERRING GULL	N					10	10		10	15	10	10	9	10	11
		MEAN					0.155	0.073		0.189	.1173	0.089	0.111	0.09	0.122	.1364
		STD					.0462	.0298		.0493	.0574	.0197	.0296	.0292	.0551	.0378
	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													0.06	
		STD														
KETTLE POINT	COMMON TERN	N			2											
		MEAN			0.035											
		STD			.0212											
CHANNEL SHELTER ISLAND	HERRING GULL	N												2	10	11
		MEAN												0.125	0.129	.0736
		STD												.0212	.0669	.0196
WALLIS ROCK	DOUBLE-CRESTED CORMORANT	N		2	3	1										
		MEAN		0.095	0.04	0.06										
		STD		.0636	0.01											
SOUTH LIMESTONE ISLAND	HERRING GULL	N							2							
		MEAN							0.135							
		STD							.0071							
	CASPIAN TERN	N			1											
		MEAN			0.03											
		STD														
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	7	8												
		MEAN	.7327	.0553												
		STD	.7209	.0388												
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N			3											
		MEAN			0.04											
		STD			0.02											
GULL ROCK	DOUBLE-CRESTED CORMORANT	N			9			1								
		MEAN			.0589			0.03								
		STD			.0494											
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N		7	2			1								
		MEAN		.0586	.0325			0.01								
		STD		.0344	.0389											

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, LAKE HURON

			YEAR													
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
DOUBLE ISLAND	HERRING GULL	N					10	10		10	10	10	10	9	10	11
		MEAN					0.159	0.092		0.187	0.099	0.097	0.107	.0911	0.115	.0927
		STD					.0331	.0464		.1304	.0381	.0427	.0359	.0271	0.035	.0629
TALON ROCK	DOUBLE-CRESTED CORMORANT	N		3	1											
		MEAN		.0302	0.03											
		STD		.0262												
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				1		2				9				
		MEAN				0.1		0.05				.0567				
		STD						.0283				.0377				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, LAKE HURON

			YEAR				
			84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	0.075	0.112	0.134	.0763	.0825
		STD	.0259	.0244			.0124
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	10	1	1	16
		MEAN	0.087	0.091	0.122	.0967	.1068
		STD	.0295	.0378			.0377
DOUBLE ISLAND	HERRING GULL	N	10	10	1	1	13
		MEAN	0.09	0.149	0.11	.0829	.1016
		STD	.0176	.0746			.0384
PUMPKIN POINT	HERRING GULL	N		10	1		
		MEAN		0.136	0.167		
		STD		.0785			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, LAKE MICHIGAN

			YEAR													
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
HAT ISLAND	HERRING GULL	N				9										
		MEAN				.2622										
		STD				.0909										
GULL ISLAND	HERRING GULL	N					10	8	10	10	11	10	9		1	1
		MEAN					0.296	.3338	0.332	0.411	.2627	0.176	.1867		.2341	.3155
		STD					.1025	.1433	.1309	.1504	.0762	.0709	.0522			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					0.355									
		STD					.1514									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												0.338		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										0.18				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										0.25				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										0.22				
		STD														
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				0.278										
		STD				.0853										
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	8	10	10	10	10	10	1	1	1
		MEAN	0.391	0.418	0.401		0.322	0.245	0.359	0.383	0.201	0.304	0.236	0.24	.6078	.2015
		STD	.1554	.1259	.1211		.1269	.1215	.0956	.1451	.0605	0.094	.0578			
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										0.22				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
CHENE ISLAND	HERRING GULL	N											1			
		MEAN											0.133			
		STD														
MAMMAINSE HARBOR	HERRING GULL	N		10	10		10	8								
		MEAN		0.126	0.136		0.128	0.135								
		STD		.0201	.0552		.0416	0.067								
AGAWA ROCK	HERRING GULL	N						10	6	10	10	10	12	10	10	1
		MEAN						0.158	.1483	0.12	0.192	0.173	.1154	0.108	0.136	0.184
		STD						.0805	.0523	.0643	.0948	.0668	.0558	.0278	.0409	
LEADMAN ISLANDS	HERRING GULL	N											1			
		MEAN											0.159			
		STD														
HURON ISLAND	HERRING GULL	N											1			
		MEAN											0.155			
		STD														
LAKE LINDEN	HERRING GULL	N											1			
		MEAN											0.167			
		STD														
GRANITE ISLAND	HERRING GULL	N	2	9		10		10	9	10	9	10		10	10	1
		MEAN	0.035	.1878		0.175		0.176	.1989	0.155	.1444	0.201		0.13	0.151	0.216
		STD	.0354	.0624		.0698		.0602	.0417	.0597	.0573	.0896		.0298	.0341	
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N											1			
		MEAN											0.09			
		STD														
PAPOOSE ISLAND	HERRING GULL	N											1			
		MEAN											0.183			
		STD														
SILVER ISLET	HERRING GULL	N	2		10		10									
		MEAN	0.08		0.19		0.109									
		STD	.0283		.0806		.0475									
GULL ISLAND	HERRING GULL	N											2			
		MEAN											0.261			
		STD											.0127			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
KNIFE ISLAND	HERRING GULL	N											1			
		MEAN											0.173			
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

HEPTACHLOR EPOXIDE, LAKE SUPERIOR

			YEAR	
			87	88
AGAWA ROCK	HERRING GULL	N	1	1
		MEAN	.1135	.1849
		STD		
GRANITE ISLAND	HERRING GULL	N	1	1
		MEAN	.1896	.1985
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-HEXACHLOROCYCLOHEXANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR						
			80	82	83	84	85	87	88
STRACHAN ISLAND	HERRING GULL	N							1
		MEAN							.0026
		STD							
SNAKE ISLAND	HERRING GULL	N			11	10	10	1	1
		MEAN			0.005	.0025	0.004	.0025	.0026
		STD			.0027	0	.0013		
PIGEON ISLAND	BLACK-CROWNED NIGHT-HERON	N		12					
		MEAN		.0025					
		STD		0					
LITTLE GALLOO ISLAND	HERRING GULL	N		10					
		MEAN		0.005					
		STD		0.002					
	BLACK-CROWNED NIGHT-HERON	N		1					
		MEAN		.0025					
		STD							
SCOTCH BONNET ISLAND	HERRING GULL	N		1					
		MEAN		.0025					
		STD							
GULL ISLAND PRESQU'ILE	HERRING GULL	N	11						
		MEAN	0.005						
		STD	0						
LESLIE ST. SPIT	HERRING GULL	N							1
		MEAN							.0026
		STD							
MUGGS ISLAND	HERRING GULL	N			11	10	10	1	
		MEAN			.0041	.0025	0.004	.0025	
		STD			.0023	0	.0013		
HAMILTON HARBOUR	HERRING GULL	N		1		1		1	
		MEAN		.0025		.0025		.0025	
		STD							
	RING-BILLED GULL	N				10			
		MEAN				.0025			
		STD				0			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-HEXACHLOROCYCLOHEXANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR					
			82	83	84	85	87	88
NIAGARA RIVER	HERRING GULL	N	1	11	10	10	1	1
		MEAN	0.01	.0082	0.003	.0043	.0025	.0026
		STD		.0025	.0011	.0012		
	BLACK-CROWNED NIGHT-HERON	N	1					
		MEAN	0.01					
		STD						
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1	11	10	10	10	1
		MEAN	0.01	.0091	.0045	.0055	.0025	.0026
		STD		0.002	.0011	.0016	0	
MIDDLE ISLAND	HERRING GULL	N		10	10	10	10	1
		MEAN		0.007	.0025	.0047	.0021	.0026
		STD		.0026	0	.0008	.0003	
	BLACK-CROWNED NIGHT-HERON	N	10					
		MEAN	.0025					
		STD	0					
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N		1				
		MEAN		0.02				
		STD						
FIGHTING ISLAND	HERRING GULL	N	10	11	10	10	10	1
		MEAN	.0043	.0048	.0025	.0033	.0025	.0026
		STD	.0031	.0028	0	.0012	0	
	RING-BILLED GULL	N			10			
		MEAN			0.003			
		STD			.0011			
ST. CLAIR RIVER	HERRING GULL	N					1	
		MEAN					.0025	
		STD						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-HEXACHLOROCYCLOHEXANE, LAKE HURON

			YEAR					
			82	83	84	85	87	88
CHANTRY ISLAND	HERRING GULL	N		11	10	10	1	13
		MEAN		.0061	.0025	.0037	.0025	.0016
		STD		.0032	0	.0013		.0005
	BLACK-CROWNED NIGHT-HERON	N	1					
		MEAN	.0025					
		STD						
CHANNEL SHELTER ISLAND	HERRING GULL	N		11	10	10	1	16
		MEAN		.0048	0.003	.0042	.0025	.0023
		STD		.0028	.0011	.0012		0
DOUBLE ISLAND	HERRING GULL	N	10	11	10	10	1	13
		MEAN	.0033	.0055	.0025	.0045	.0025	.0026
		STD	.0012	.0031	0	.0011		0
PUMPKIN POINT	HERRING GULL	N				10		
		MEAN				0.003		
		STD				.0011		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-HEXACHLOROCYCLOHEXANE, LAKE MICHIGAN

			YEAR					
			82	83	84	85	87	88
GULL ISLAND	HERRING GULL	N		11	10	9	1	1
		MEAN		.0073	.0025	0.005	.0025	.0023
		STD		.0026	0	0		
FISH ISLAND	HERRING GULL	N			1			
		MEAN			.0025			
		STD						
GRAVEL ISLAND	HERRING GULL	N			1			
		MEAN			.0025			
		STD						
SPIDER ISLAND	HERRING GULL	N			1			
		MEAN			.0025			
		STD						
BIG SISTER ISLAND	HERRING GULL	N	10	10	10	10	1	1
		MEAN	.0038	.0055	0.005	.0085	.0022	.0009
		STD	.0013	.0026	0	.0078		
HAT ISLAND GREEN BAY	HERRING GULL	N			1			
		MEAN			.0025			
		STD						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

ALPHA-HEXACHLOROCYCLOHEXANE, LAKE SUPERIOR

			YEAR					
			82	83	84	85	87	88
AGAWA ROCK	HERRING GULL	N		11	10	10	1	1
		MEAN		0.007	0.004	0.005	.0025	.0026
		STD		.0035	.0013	0		
GRANITE ISLAND	HERRING GULL	N	10		10	10	1	1
		MEAN	.0032		.0025	.0055	.0025	.0023
		STD	.0012		0	.0016		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N		1				
		MEAN		0.02				
		STD						
GULL ISLAND	HERRING GULL	N		1				
		MEAN		0.01				
		STD						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

BETA-HEXACHLOROCYCLOHEXANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			73	76	77	78	79	80	81	82	83	84	85	86	87	88
STRACHAN ISLAND	HERRING GULL	N												1		1
		MEAN												0.012		.0088
		STD														
SNAKE ISLAND	HERRING GULL	N			10	10	10	10	10	10	11	10	10	10	1	1
		MEAN			0.238	0.097	0.065	0.038	0.065	0.043	.0336	0.035	0.015	.0114	.0031	.0132
		STD			.2557	.0189	.0288	.0187	.0321	.0164	.0136	.0097	.0053	.0072		
WEST BROTHERS ISLAND	HERRING GULL	N	16													
		MEAN	.0925													
		STD	.0586													
PIGEON ISLAND	HERRING GULL	N							10	10						
		MEAN							0.065	0.036						
		STD							.0217	.0107						
	BLACK-CROWNED NIGHT-HERON	N								12						
		MEAN								.0327						
		STD								.0235						
LITTLE GALLOO ISLAND	HERRING GULL	N							10	10						
		MEAN							0.058	0.04						
		STD							.0204	.0115						
	BLACK-CROWNED NIGHT-HERON	N								1						
		MEAN								0.01						
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N		14		8				1						
		MEAN		.0979		.1237				0.09						
		STD		.0618		.0245										
GULL ISLAND PRESQU'ILE	HERRING GULL	N		4	4	19		11		10						
		MEAN		0.02	0.135	.1205		.0536		.0431						
		STD		.0082	.0569	.0635		.0112		.0382						
LESLIE ST. SPIT	HERRING GULL	N				4										1
		MEAN				0.05										.0092
		STD				.0183										
MUGGS ISLAND	HERRING GULL	N			10	4	10	9	10	9	11	10	10	10	1	
		MEAN			0.084	.0625	0.046	.0433	0.048	.0267	.0218	0.02	.0095	.0119	.0031	
		STD			.0263	.0126	.0241	.0212	.0225	.0158	.0087	.0082	.0016	.0048		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

BETA-HEXACHLOROCYCLOHEXANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			73	76	77	78	79	80	81	82	83	84	85	86	87	88
MUGGS ISLAND	RING-BILLED GULL	N					24									
		MEAN					.0275									
		STD					.0107									
HAMILTON HARBOUR	HERRING GULL	N							10	1		1		1	1	
		MEAN							0.058	0.03		0.02		.0005	.0031	
		STD							.0148							
	RING-BILLED GULL	N										10				
		MEAN										0.004				
		STD										.0013				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

BETA-HEXACHLOROCYCLOHEXANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR											
			77	78	79	80	81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N			10		10	1	11	10	10	10	1	1
		MEAN			0.073		0.037	0.05	.0209	0.018	0.007	.0149	.0031	0.012
		STD			.0519		.0221		.0083	.0103	.0026	0.009		
	BLACK-CROWNED NIGHT-HERON	N						1				1		
		MEAN						0.35				0.099		
		STD												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	10	10	9	10	1	11	10	10	1	10	1
		MEAN	0.045	0.029	0.015	.0133	0.02	0.03	.0127	0.017	0.01	.0005	.0031	.0032
		STD	.0085	.0074	.0053	0.005	.0105		.0047	.0067	0		0	
MOHAWK ISLAND	HERRING GULL	N		10										
		MEAN		.0255										
		STD		.0164										
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N										1		
		MEAN										.0005		
		STD												
SANDUSKY TURNING POINT	HERRING GULL	N			10									
		MEAN			0.015									
		STD			.0071									
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	10	1	10	1
		MEAN	0.036	.0095	0.01	.0029	0.016	.0106	.0095	.0025	0.005	.0005	.0031	.0032
		STD	.0207	.0044	0	0.004	0.007	.0059	.0016	0	0		0	
	BLACK-CROWNED NIGHT-HERON	N						10				1		
		MEAN						.0043				.0005		
		STD						.0055						
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N			10				1					
		MEAN			0.015				0.01					
		STD			.0133									
MIDDLE SISTER ISLAND	HERRING GULL	N		44										
		MEAN		.0107										
		STD		.0048										
FIGHTING ISLAND	HERRING GULL	N		11	45		10	20	11	10	10	1	10	1
		MEAN		.0145	.0098		0.016	.0435	.0093	.0128	.0053	.0005	.0031	.0032
		STD		.0117	.0014		.0084	.0268	.0045	.0094	.0018		0	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

BETA-HEXACHLOROCYCLOHEXANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR										
			77	78	79	80	81	82	83	84	85	86	87	88
FIGHTING ISLAND	COMMON TERN	N			10									
		MEAN			.0043									
		STD			.0049									
	RING-BILLED GULL	N			10					10				
		MEAN			.0076					.0037				
		STD			.0041					.0013				
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N										1		
		MEAN										.0005		
		STD												
	FORSTERS TERN	N										1		
		MEAN										.0005		
		STD												
ST. CLAIR RIVER	HERRING GULL	N											1	
		MEAN											.0031	
		STD												

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

BETA-HEXACHLOROCYCLOHEXANE, LAKE HURON

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N		10	15	10	10	10	10	11	10	10	1	1	13
		MEAN		0.037	0.026	0.014	0.01	0.015	.0073	.0139	.0043	.0047	.0005	.0031	.0038
		STD		.0254	.0216	.0126	.0041	.0053	.0104	.0126	.0055	.0008			.0027
	BLACK-CROWNED NIGHT-HERON	N							1						
		MEAN							.0025						
		STD													
CHANNEL SHELTER ISLAND	HERRING GULL	N						10	10	11	10	10	1	1	16
		MEAN						0.024	0.039	.0164	0.01	0.009	.0005	.0031	.0033
		STD						.0052	.0185	.0067	0	.0021			.0013
SOUTH LIMESTONE ISLAND	HERRING GULL	N	2												
		MEAN	0.03												
		STD	0												
DOUBLE ISLAND	HERRING GULL	N		10	10	10	7	10	10	11	10	10	1	1	13
		MEAN		0.051	.0205	0.019	.0059	0.015	.0068	.0134	0.012	0.007	.0005	.0031	.0036
		STD		.0228	.0194	.0173	.0043	.0097	.0058	.0067	.0063	.0026			.0013
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				9									
		MEAN				.0156									
		STD				.0085									
PUMPKIN POINT	HERRING GULL	N										10	1		
		MEAN										.0056	.0005		
		STD										.0026			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

BETA-HEXACHLOROCYCLOHEXANE, LAKE MICHIGAN

			YEAR												
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
HAT ISLAND	HERRING GULL	N				9										
		MEAN				.0322										
		STD				.0282										
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10	9		1	1
		MEAN					0.018	0.014	0.011	.0062	0.01	.0032	.0061		.0031	.0028
		STD					.0103	0.007	.0032	.0049	0	.0024	.0022			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					.0265									
		STD					.0249									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												.0005		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										.0025				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										0.01				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										0.01				
		STD														
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				0.02										
		STD				.0141										
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	10	1	1	1
		MEAN	0.026	0.01	0.016		0.023	0.021	.0067	.0105	.0058	0.01	.0115	.0005	.0051	.0012
		STD	.0241	0	.0097		.0157	.0247	.0045	.0037	.0031	0	.0103			
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										0.01				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

BETA-HEXACHLOROCYCLOHEXANE, LAKE SUPERIOR

			YEAR											
			76	77	78	79	80	81	82	83	84	85	86	87	88
MAMMAINSE HARBOR	HERRING GULL	N		10	8										
		MEAN		0.025	.0213										
		STD		.0201	.0155										
AGAWA ROCK	HERRING GULL	N			10	10	10	10	10	11	10	10	1	1	1
		MEAN			0.029	0.026	0.012	0.019	.0161	0.01	.0102	.0065	.0005	.0031	.0032
		STD			.0264	.0178	.0042	.0166	.0083	.0073	.0042	.0024			
GRANITE ISLAND	HERRING GULL	N	6		10	10	9	10	10		10	10	1	1	1
		MEAN	0.02		0.024	0.019	.0084	0.016	.0212		.0048	0.011	.0005	.0031	.0028
		STD	.0155		.0184	.0074	.0089	.0084	.0149		.0036	.0032			
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N								1					
		MEAN								0.01					
		STD													
SILVER ISLET	HERRING GULL	N		10											
		MEAN		0.026											
		STD		.0246											
GULL ISLAND	HERRING GULL	N								1					
		MEAN								0.01					
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-HEXACHLOROCYCLOHEXANE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR		
			80	87	88
STRACHAN ISLAND	HERRING GULL	N			1
		MEAN			.0024
		STD			
SNAKE ISLAND	HERRING GULL	N		1	1
		MEAN		.0021	.0024
		STD			
GULL ISLAND PRESQU'ILE	HERRING GULL	N	11		
		MEAN	.0005		
		STD	0		
LESLIE ST. SPIT	HERRING GULL	N			1
		MEAN			.0024
		STD			
MUGGS ISLAND	HERRING GULL	N		1	
		MEAN		.0021	
		STD			
HAMILTON HARBOUR	HERRING GULL	N		1	
		MEAN		.0021	
		STD			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-HEXACHLOROCYCLOHEXANE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
NIAGARA RIVER	HERRING GULL	N	1	1
		MEAN	.0021	.0024
		STD		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1
		MEAN	.0021	.0024
		STD	0	
MIDDLE ISLAND	HERRING GULL	N	10	1
		MEAN	0.002	.0024
		STD	.0002	
FIGHTING ISLAND	HERRING GULL	N	10	1
		MEAN	.0022	.0024
		STD	0	
ST. CLAIR RIVER	HERRING GULL	N	1	
		MEAN	.0021	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-HEXACHLOROCYCLOHEXANE, LAKE HURON

			YEAR	
			87	88
CHANTRY ISLAND	HERRING GULL	N	1	13
		MEAN	.0022	.0012
		STD		0
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	16
		MEAN	.0021	.0018
		STD		0
DOUBLE ISLAND	HERRING GULL	N	1	13
		MEAN	.0022	.0024
		STD		0

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-HEXACHLOROCYCLOHEXANE, LAKE MICHIGAN

			YEAR	
			87	88
GULL ISLAND	HERRING GULL	N	1	1
		MEAN	.0021	.0018
		STD		
BIG SISTER ISLAND	HERRING GULL	N	1	1
		MEAN	0.002	.0008
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

GAMMA-HEXACHLOROCYCLOHEXANE, LAKE SUPERIOR

			YEAR	
			87	88
AGAWA ROCK	HERRING GULL	N	1	1
		MEAN	.0021	.0024
		STD		
GRANITE ISLAND	HERRING GULL	N	1	1
		MEAN	.0021	.0018
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

LEAD, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR	
			77	80
SNAKE ISLAND	HERRING GULL	N	10	
		MEAN	.1598	
		STD	.1109	
GULL ISLAND PRESQU'ILE	HERRING GULL	N		1
		MEAN		0.04
		STD		
MUGGS ISLAND	HERRING GULL	N	10	
		MEAN	0.247	
		STD	.1587	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

LEAD, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			77
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1
		MEAN	0.24
		STD	
MIDDLE ISLAND	HERRING GULL	N	1
		MEAN	0.55
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

LEAD, LAKE HURON

			YEAR
			77
CHANTRY ISLAND	HERRING GULL	N	1
		MEAN	0.41
		STD	
DOUBLE ISLAND	HERRING GULL	N	1
		MEAN	0.12
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

LEAD, LAKE MICHIGAN

			YEAR
			77
HAT ISLAND	HERRING GULL	N	1
		MEAN	0.15
		STD	
LITTLE SISTER ISLAND	HERRING GULL	N	1
		MEAN	0.051
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TOTAL MERCURY, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR									
			71	72	73	74	75	76	80	81	82	83	85
SNAKE ISLAND	HERRING GULL	N								10	10	11	10
		MEAN								0.413	0.838	.3273	0.422
		STD								.1235	.1855	.0811	.0939
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10						
		MEAN			.4844	0.458	0.657						
		STD			.2001	.1838	.2614						
PIGEON ISLAND	HERRING GULL	N		1						10	10		
		MEAN		0.81						0.51	0.877		
		STD								.1697	.2474		
	BLACK-CROWNED NIGHT-HERON	N		1									
		MEAN		0.12									
		STD											
LITTLE GALLOO ISLAND	HERRING GULL	N								10	10		
		MEAN								0.468	0.801		
		STD								.1698	.1419		
SCOTCH BONNET ISLAND	HERRING GULL	N						5			1		
		MEAN						0.358			0.72		
		STD						.1173					
	DOUBLE-CRESTED CORMORANT	N		7			1						
		MEAN		0.94			0.53						
		STD		.2454									
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	1		10		
		MEAN						0.368	0.31		0.581		
		STD						.1213			.2297		
	COMMON TERN	N					4						
		MEAN					0.295						
		STD					0.09						
TORONTO ISLANDS	COMMON TERN	N		6									
		MEAN		.5617									
		STD		.1579									
MUGGS ISLAND	HERRING GULL	N				9	10			10	9	11	10
		MEAN				.4989	0.775			0.48	.5411	.2364	0.387
		STD				0.098	.3724			.1317	.0535	.0446	.2078

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TOTAL MERCURY, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR									
			71	72	73	74	75	76	80	81	82	83	85
MUGGS ISLAND	COMMON TERN	N		5									
		MEAN		1.066									
		STD		0.229									
HAMILTON HARBOUR	HERRING GULL	N								10	1		
		MEAN								0.388	0.48		
		STD								0.094			
	COMMON TERN	N	25										
		MEAN	1.12										
		STD	.3746										

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TOTAL MERCURY, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR							
			72	73	74	75	81	82	83	85
NIAGARA RIVER	HERRING GULL	N					10	1	11	10
		MEAN					0.236	0.35	0.15	0.164
		STD					.0819		.0407	.0636
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6						
		MEAN		.5533						
		STD		.2303						
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	1	11	10
		MEAN			0.211	0.268	0.244	0.54	.2209	0.298
		STD			.0363	.0466	.0762		0.081	.1147
	COMMON TERN	N	4	2						
		MEAN	0.56	0.495						
		STD	.2165	.1061						
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10
		MEAN			0.223	0.214	0.165	0.211	0.134	0.156
		STD			.0648	.0769	.0255	.0418	0.028	.0324
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18							
		MEAN	.4489							
		STD	.1314							
FIGHTING ISLAND	HERRING GULL	N	2				10	20	11	10
		MEAN	0.58				0.21	.2375	.2255	0.165
		STD	.1131				0.093	0.1	0.065	.0793
	COMMON TERN	N	3							
		MEAN	.9733							
		STD	1.053							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TOTAL MERCURY, LAKE HURON

			YEAR									
			71	72	73	74	75	76	81	82	83	85
CHANTRY ISLAND	HERRING GULL	N				10	10		9	10	11	10
		MEAN				0.244	0.228		.1844	0.283	0.13	0.129
		STD				0.067	.0769		.0799	0.085	.0707	.0509
KETTLE POINT	COMMON TERN	N		2								
		MEAN		0.36								
		STD		.1414								
CHANNEL SHELTER ISLAND	HERRING GULL	N							10	10	11	10
		MEAN							0.155	0.222	.1636	0.124
		STD							.0477	.0434	0.062	.0158
WALLIS ROCK	DOUBLE-CRESTED CORMORANT	N	2	3	1							
		MEAN	0.82	.5267	0.71							
		STD	.1131	.0404								
SOUTH LIMESTONE ISLAND	HERRING GULL	N						2				
		MEAN						0.38				
		STD						.0424				
	CASPIAN TERN	N		1								
		MEAN		0.94								
		STD										
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	7									
		MEAN	.5443									
		STD	.2316									
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N		3								
		MEAN		.8267								
		STD		.0862								
GULL ROCK	DOUBLE-CRESTED CORMORANT	N		9			1					
		MEAN		.3556			0.36					
		STD		0.121								
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N	7	2			1					
		MEAN	.6286	0.385			0.51					
		STD	.2637	.0495								
DOUBLE ISLAND	HERRING GULL	N				10	10		10	10	11	10
		MEAN				0.186	0.311		0.324	0.391	.2082	0.214
		STD				.0527	.1179		.0682	.0588	.0733	.0398

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TOTAL MERCURY, LAKE HURON

			YEAR									
			71	72	73	74	75	76	81	82	83	85
TALON ROCK	DOUBLE-CRESTED CORMORANT	N	3	1								
		MEAN	.5967	0.32								
		STD	.0907									
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N			1		2					
		MEAN			0.41		0.31					
		STD					.1414					
PUMPKIN POINT	HERRING GULL	N										10
		MEAN										0.184
		STD										.0433

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TOTAL MERCURY, LAKE MICHIGAN

			YEAR		
			82	83	85
GULL ISLAND	HERRING GULL	N	10	11	9
		MEAN	0.478	.1655	.1422
		STD	0.121	.0327	.0205
BIG SISTER ISLAND	HERRING GULL	N	10	10	10
		MEAN	0.37	0.168	0.134
		STD	.1702	.0408	.0395

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TOTAL MERCURY, LAKE SUPERIOR

			YEAR							
			73	74	75	76	81	82	83	85
MAMMAINSE HARBOR	HERRING GULL	N		10	10					
		MEAN		0.368	0.396					
		STD		.0727	.1388					
AGAWA ROCK	HERRING GULL	N					10	10	11	10
		MEAN					0.264	0.592	.2818	0.219
		STD					.0734	.1383	.1226	.0771
GRANITE ISLAND	HERRING GULL	N	2	9		10	10	10		10
		MEAN	0.42	.3544		0.3	0.355	0.405		0.201
		STD	.0283	0.12		0.066	.0809	.1141		.0461
SILVER ISLET	HERRING GULL	N	2		10					
		MEAN	0.53		0.417					
		STD	.0424		.1193					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
STRACHAN ISLAND	HERRING GULL	N													1	
		MEAN													1	
		STD														
SNAKE ISLAND	HERRING GULL	N														
		MEAN				10	10	10	10	10	10	9	10	10	10	1
		STD				2.909	1.738	1.958	1.583	2.799	2.482	1.503	2.019	1.684	1.206	.8605
						1.09	0.512	.6074	.7685	1.638	.4937	.5782	.6415	.6388	.4215	
WEST BROTHERS ISLAND	HERRING GULL	N	10	10												
		MEAN	6.59	5.97												
		STD	2.804	2.275												
PIGEON ISLAND	HERRING GULL	N														
		MEAN								10	10					
		STD								2.837	3.064					
										1.465	.7888					
	DOUBLE-CRESTED CORMORANT	N														
		MEAN								10						
		STD								0.693						
										.4538						
	CASPIAN TERN	N														
		MEAN								8						
		STD								1.571						
										.5303						
	BLACK-CROWNED NIGHT-HERON	N														
		MEAN									12					
		STD									1.035					
											.6836					
LITTLE GALLOO ISLAND	HERRING GULL	N														
		MEAN								10	10					
		STD								2.246	3.461					
										.8507	1.545					
	DOUBLE-CRESTED CORMORANT	N														
		MEAN								10						
		STD								1.237						
										0.572						
	BLACK-CROWNED NIGHT-HERON	N														
		MEAN									1					
		STD									0.84					
SCOTCH BONNET ISLAND	HERRING GULL	N			15		8				1					
		MEAN			3.864		13.389				3.67					
		STD			3.28		2.372									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
GULL ISLAND PRESQU'ILE	HERRING GULL	N			5	4	19		11		10					
		MEAN			.0005	3.625	4.226		2.005		2.782					
		STD			0	.9307	2.846		.6724		1.391					
LESLIE ST. SPIT	HERRING GULL	N					4									
		MEAN					1.238									
		STD					.8599									
MUGGS ISLAND	HERRING GULL	N	9	10		10	4	10	9	10	9	10	10	10	10	1
		MEAN	7.44	3.421		2.051	1.55	1.812	1.722	2.534	3.691	1.36	1.722	1.262	.9815	.5024
		STD	4.748	1.424		.4323	.5148	.8695	1.054	1.12	1.279	.5869	.7348	.5606	.2934	
	RING-BILLED GULL	N						24								
		MEAN						.7471								
		STD						0.408								
HAMILTON HARBOUR	HERRING GULL	N								10	1		1		1	1
		MEAN								1.941	2.35		1.34		0.711	.5805
		STD								.6474						
	RING-BILLED GULL	N											10			
		MEAN											0.504			
		STD											.1812			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR
			88
STRACHAN ISLAND	HERRING GULL	N	1
		MEAN	.8186
		STD	
SNAKE ISLAND	HERRING GULL	N	1
		MEAN	.9439
		STD	
LESLIE ST. SPIT	HERRING GULL	N	1
		MEAN	.6921
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR													
			74	75	77	78	79	80	81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N					10		10	1	8	10	10	10	1	1
		MEAN					0.493		0.738	0.98	.3338	0.568	0.587	0.364	.2377	.2107
		STD					.2432		.4982		.2576	.1989	.3135	.1366		
	BLACK-CROWNED NIGHT-HERON	N								1				1		
		MEAN								0.75				0.903		
		STD														
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	10	10	10	10	9	10	1	11	10	10	1	10	1
		MEAN	0.844	0.419	0.511	0.379	0.245	.2844	0.424	0.6	.2891	0.382	0.235	0.25	.2123	.1814
		STD	.5057	.1658	.1981	.1569	.0902	.1826	.4674		.2333	.2524	.0789		.1698	
MOHAWK ISLAND	HERRING GULL	N				10										
		MEAN				0.258										
		STD				.1497										
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N												1		
		MEAN												0.025		
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N					10									
		MEAN					0.2									
		STD					.2308									
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	10	10	10	1	10	1
		MEAN	0.436	0.223	0.39	.0192	0.104	0.093	0.073	0.079	0.043	0.05	0.052	0.03	.0142	.0258
		STD	.4288	.0627	.3441	.0495	.0409	.0794	.0732	.0363	.0406	.0447	.0215		.0056	
	BLACK-CROWNED NIGHT-HERON	N								10				1		
		MEAN								0.028				0.011		
		STD								.0114						
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N					10		10		1					
		MEAN					0.105		0.049		0.05					
		STD					.0913		.0311							
MIDDLE SISTER ISLAND	HERRING GULL	N				44										
		MEAN				.1198										
		STD				.1037										
FIGHTING ISLAND	HERRING GULL	N				11	10		10	20	11	10	10	1	10	1
		MEAN				.1273	0.115		0.12	.1305	.2173	0.233	0.373	0.11	.0411	.0386
		STD				.1076	.0606		.1043	.0826	.3862	.4339	.5495		.0357	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR													
			74	75	77	78	79	80	81	82	83	84	85	86	87	88
FIGHTING ISLAND	COMMON TERN	N					10									
		MEAN					.0143									
		STD					.0181									
	RING-BILLED GULL	N					10					10				
		MEAN					.0054					.0415				
		STD					.0106					.0684				
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												0.114		
		STD														
	FORSTERS TERN	N												1		
		MEAN												0.037		
		STD														
ST. CLAIR RIVER	HERRING GULL	N													1	
		MEAN													.0249	
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, LAKE HURON

			YEAR												
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
CHANTRY ISLAND	HERRING GULL	N	10	10		10	15	10	10	10	10	10	10	10	1	1
		MEAN	2.155	0.478		0.332	.2427	0.201	0.159	0.352	0.581	0.156	0.492	0.141	0.128	.1114
		STD	2.056	.5647		0.216	.2844	0.326	.1617	.3667	.6309	.0789	.3776	.1347		
	BLACK-CROWNED NIGHT-HERON	N									1					
		MEAN									0.19					
		STD														
MANITOBA REEF	HERRING GULL	N							10							
		MEAN							0.206							
		STD							.2651							
BLACK RIVER	HERRING GULL	N							10							
		MEAN							0.121							
		STD							.1319							
LITTLE CHARITY ISLAND	HERRING GULL	N							10							
		MEAN							0.082							
		STD							.0437							
CHANNEL SHELTER ISLAND	HERRING GULL	N							10	10	10	11	10	10	1	1
		MEAN							0.198	0.061	0.229	.0664	0.029	0.083	0.13	.0518
		STD							.2828	0.03	.2241	.0638	.0277	.1217		
NOTTAWASAGA ISLAND	HERRING GULL	N							10							
		MEAN							0.307							
		STD							.2966							
SOUTH LIMESTONE ISLAND	HERRING GULL	N			2											
		MEAN			1.51											
		STD			.2546											
	CASPIAN TERN	N							10							
		MEAN							0.306							
		STD							.1511							
CASTLE ROCK	HERRING GULL	N							10							
		MEAN							0.171							
		STD							.1333							
HALF MOON ISLAND	CASPIAN TERN	N							9							
		MEAN							0.09							
		STD							.0634							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, LAKE HURON

			YEAR												
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
THE COUSINS ISLAND	CASPIAN TERN	N							10							
		MEAN							0.069							
		STD							.0213							
DOUBLE ISLAND	HERRING GULL	N	10	10		10	10	10	10	10	10	11	10	10	1	1
		MEAN	0.519	0.547		0.553	.1635	0.17	0.058	0.17	0.381	.1527	0.197	0.292	0.114	.0554
		STD	.2219	.6761		.5703	.2226	.1648	.0496	.1546	.3777	0.171	.1882	.3828		
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N						8								
		MEAN						.1501								
		STD						.1249								
PUMPKIN POINT	HERRING GULL	N							10					10	1	
		MEAN							0.127					0.118	0.155	
		STD							.1782					.1032		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, LAKE HURON

			YEAR
			88
CHANTRY ISLAND	HERRING GULL	N	13
		MEAN	.0657
		STD	.0722
CHANNEL SHELTER ISLAND	HERRING GULL	N	16
		MEAN	.0904
		STD	.1182
DOUBLE ISLAND	HERRING GULL	N	13
		MEAN	.0741
		STD	.0763

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, LAKE MICHIGAN

			YEAR													
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
ISLE AUX GALETS	CASPIAN TERN	N							9							
		MEAN							.0444							
		STD							.0133							
HAT ISLAND	HERRING GULL	N				9										
		MEAN				.2124										
		STD				.2893										
	CASPIAN TERN	N							9							
		MEAN							.0522							
		STD							.0299							
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10	9		1	1
		MEAN					0.157	0.146	0.141	0.106	.0618	0.055	.0417		.0622	0.035
		STD					.1017	0.149	.1345	.0783	.0412	.0585	.0294			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					0.33									
		STD					.5966									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												0.091		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										0.04				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										0.06				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										0.02				
		STD														
GRAVELLY ISLAND	CASPIAN TERN	N							10							
		MEAN							0.055							
		STD							.0127							
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				0.07										
		STD				.0416										

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, LAKE MICHIGAN

			YEAR												
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	10	1	1	1
		MEAN	0.679	0.214	0.357		0.256	0.312	0.068	0.07	0.044	0.133	0.182	0.052	.0961	.0348
		STD	1.437	.3111	0.54		.2483	.4932	.0439	.0287	.0389	.2422	.4737			
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										0.04				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, LAKE SUPERIOR

			YEAR													
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
CHENE ISLAND	HERRING GULL	N										1				
		MEAN										0.126				
		STD														
MAMMAINSE HARBOR	HERRING GULL	N	10	10		10	8									
		MEAN	0.759	1.292		0.415	.1456									
		STD	0.665	1.721		.7906	.1565									
AGAWA ROCK	HERRING GULL	N					10	10	10	10	10	12	10	10	1	1
		MEAN					0.274	0.328	0.173	0.197	0.512	.1522	0.194	0.12	0.121	0.16
		STD					.2639	.4421	.1055	.3486	.5173	.0514	.2759	.1277		
LEADMAN ISLANDS	HERRING GULL	N										1				
		MEAN										0.244				
		STD														
HURON ISLAND	HERRING GULL	N										1				
		MEAN										0.146				
		STD														
LAKE LINDEN	HERRING GULL	N										1				
		MEAN										0.093				
		STD														
GRANITE ISLAND	HERRING GULL	N	9		10		10	10	10	10	10		10	10	1	1
		MEAN	1.347		.0473		0.386	0.192	0.091	0.09	0.22		0.048	0.09	0.09	.0314
		STD	.7252		.0694		.4797	0.154	.1091	.0641	.2977		.0512	.0447		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N										1				
		MEAN										0.03				
		STD														
PAPOOSE ISLAND	HERRING GULL	N										1				
		MEAN										0.051				
		STD														
SILVER ISLET	HERRING GULL	N		10		10										
		MEAN		0.619		0.237										
		STD		.3686		.2253										
GULL ISLAND	HERRING GULL	N										2				
		MEAN										0.108				
		STD										.0028				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, LAKE SUPERIOR

			YEAR												
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
KNIFE ISLAND	HERRING GULL	N										1				
		MEAN										0.032				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

MIREX, LAKE SUPERIOR

			YEAR
			88
AGAWA ROCK	HERRING GULL	N	1
		MEAN	.0861
		STD	
GRANITE ISLAND	HERRING GULL	N	1
		MEAN	.0335
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PHOTOMIREX, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR							
			76	77	78	79	80	86	87	88
STRACHAN ISLAND	HERRING GULL	N						1		1
		MEAN						0.342		.3183
		STD								
SNAKE ISLAND	HERRING GULL	N		10	10	10		10	1	1
		MEAN		1.06	0.705	0.731		.4537	.2595	.3991
		STD		.3716	.2777	.2418		.1403		
SCOTCH BONNET ISLAND	HERRING GULL	N	10		8					
		MEAN	2.014		1.229					
		STD	.7225		.8114					
GULL ISLAND PRESQU'ILE	HERRING GULL	N		4	19		11			
		MEAN		1.223	1.626		.6791			
		STD		.3717	.9958		.3122			
LESLIE ST. SPIT	HERRING GULL	N			4					1
		MEAN			0.425					.2927
		STD			.2567					
MUGGS ISLAND	HERRING GULL	N		10	4	10		10	1	
		MEAN		0.83	0.495	0.719		.3919	.2067	
		STD		.2438	.1586	.3318		.1087		
	RING-BILLED GULL	N				24				
		MEAN				.2658				
		STD				.1534				
HAMILTON HARBOUR	HERRING GULL	N						1	1	
		MEAN						0.272	.1605	
		STD								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PHOTOMIREX, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR					
			77	78	79	86	87	88
NIAGARA RIVER	HERRING GULL	N			10	10	1	1
		MEAN			0.175	0.145	.0649	.0869
		STD			.0945	.0563		
	BLACK-CROWNED NIGHT-HERON	N				1		
		MEAN				0.362		
		STD						
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	10	10	1	10	1
		MEAN	0.195	0.115	0.095	0.109	0.055	.0783
		STD	0.06	.0599	.0428		0.052	
MOHAWK ISLAND	HERRING GULL	N		10				
		MEAN		0.092				
		STD		.0473				
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N				1		
		MEAN				.0005		
		STD						
SANDUSKY TURNING POINT	HERRING GULL	N			10			
		MEAN			0.074			
		STD			.0828			
MIDDLE ISLAND	HERRING GULL	N	10	10	10	1	10	1
		MEAN	0.139	0.001	0.047	.0005	.0163	.0107
		STD	.1224	.0014	.0221		.0028	
	BLACK-CROWNED NIGHT-HERON	N				1		
		MEAN				.0005		
		STD						
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N			10			
		MEAN			.0315			
		STD			.0263			
MIDDLE SISTER ISLAND	HERRING GULL	N		44				
		MEAN		.0458				
		STD		.0417				
FIGHTING ISLAND	HERRING GULL	N		11	10	1	10	1
		MEAN		0.02	0.039	.0005	.0189	.0107
		STD		.0268	.0173		0.001	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PHOTOMIREX, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR					
			77	78	79	86	87	88
FIGHTING ISLAND	COMMON TERN	N			10			
		MEAN			.0043			
		STD			.0049			
	RING-BILLED GULL	N			10			
		MEAN			.0024			
		STD			0.004			
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N				1		
		MEAN				0.043		
		STD						
	FORSTERS TERN	N				1		
		MEAN				0.009		
		STD						
ST. CLAIR RIVER	HERRING GULL	N					1	
		MEAN					.0177	
		STD						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PHOTOMIREX, LAKE HURON

			YEAR						
			76	77	78	79	86	87	88
CHANTRY ISLAND	HERRING GULL	N		10	15	10	1	1	13
		MEAN		0.141	0.1	0.085	0.058	.0177	.0278
		STD		.0781	.1025	.1271			.0333
CHANNEL SHELTER ISLAND	HERRING GULL	N					1	1	16
		MEAN					0.061	.0177	.0377
		STD							.0458
SOUTH LIMESTONE ISLAND	HERRING GULL	N	2						
		MEAN	0.545						
		STD	.0636						
DOUBLE ISLAND	HERRING GULL	N		10	10	10	1	1	13
		MEAN		0.214	.0566	0.066	0.051	.0177	.0339
		STD		.1994	.0743	0.051			.0328
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				8			
		MEAN				.0527			
		STD				.0646			
PUMPKIN POINT	HERRING GULL	N					1		
		MEAN					0.066		
		STD							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PHOTOMIREX, LAKE MICHIGAN

			YEAR					
			77	78	79	86	87	88
HAT ISLAND	HERRING GULL	N	9					
		MEAN	.0933					
		STD	.1086					
GULL ISLAND	HERRING GULL	N		9	10		1	1
		MEAN		.0633	0.073		.0177	.0104
		STD		.0332	.0542			
BELLOWS ISLAND	HERRING GULL	N		10				
		MEAN		0.141				
		STD		.2309				
TROUT ISLAND	HERRING GULL	N				1		
		MEAN				.0005		
		STD						
LITTLE SISTER ISLAND	HERRING GULL	N	10					
		MEAN	0.039					
		STD	.0179					
BIG SISTER ISLAND	HERRING GULL	N		10	10	1	1	1
		MEAN		0.096	0.137	.0005	.0475	.0191
		STD		.0837	.2205			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PHOTOMIREX, LAKE SUPERIOR

			YEAR					
			77	78	79	86	87	88
MAMMAINSE HARBOR	HERRING GULL	N	10	8				
		MEAN	0.179	.0613				
		STD	.2823	.0484				
AGAWA ROCK	HERRING GULL	N		10	10	1	1	1
		MEAN		.1015	0.137	0.059	.0465	.0425
		STD		.0987	.1824			
GRANITE ISLAND	HERRING GULL	N		10	10	1	1	1
		MEAN		0.155	0.086	0.046	.0175	.0104
		STD		0.19	.0611			
SILVER ISLET	HERRING GULL	N	10					
		MEAN	0.115					
		STD	0.103					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

CIS-NONACHLOR, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR		
			86	87	88
STRACHAN ISLAND	HERRING GULL	N	1		1
		MEAN	0.05		0.04
		STD			
SNAKE ISLAND	HERRING GULL	N	10	1	1
		MEAN	.0444	.0419	.0761
		STD	.0219		
LESLIE ST. SPIT	HERRING GULL	N			1
		MEAN			.0491
		STD			
MUGGS ISLAND	HERRING GULL	N	10	1	
		MEAN	.0677	.0409	
		STD	.0165		
HAMILTON HARBOUR	HERRING GULL	N	1	1	
		MEAN	0.052	.0414	
		STD			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

CIS-NONACHLOR, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR		
			86	87	88
NIAGARA RIVER	HERRING GULL	N	10	1	1
		MEAN	0.058	.0331	.0593
		STD	.0185		
	BLACK-CROWNED NIGHT-HERON	N	1		
		MEAN	0.11		
		STD			
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1	10	1
		MEAN	0.053	.0365	.0453
		STD		.0101	
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N	1		
		MEAN	0.072		
		STD			
MIDDLE ISLAND	HERRING GULL	N	1	10	1
		MEAN	0.056	.0338	.0519
		STD		.0087	
	BLACK-CROWNED NIGHT-HERON	N	1		
		MEAN	0.031		
		STD			
FIGHTING ISLAND	HERRING GULL	N	1	10	1
		MEAN	0.024	.0229	.0424
		STD		0.007	
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N	1		
		MEAN	0.074		
		STD			
	FORSTERS TERN	N	1		
		MEAN	0.071		
		STD			
ST. CLAIR RIVER	HERRING GULL	N		1	
		MEAN		.0408	
		STD			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

CIS-NONACHLOR, LAKE HURON

			YEAR		
			86	87	88
CHANTRY ISLAND	HERRING GULL	N	1	1	13
		MEAN	0.057	.0241	.0462
		STD			.0104
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	1	16
		MEAN	0.044	.0308	.0436
		STD			.0164
DOUBLE ISLAND	HERRING GULL	N	1	1	13
		MEAN	0.062	.0337	.0472
		STD			.0142
PUMPKIN POINT	HERRING GULL	N	1		
		MEAN	0.059		
		STD			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

CIS-NONACHLOR, LAKE MICHIGAN

			YEAR		
			86	87	88
GULL ISLAND	HERRING GULL	N		1	1
		MEAN		.0618	.0824
		STD			
TROUT ISLAND	HERRING GULL	N	1		
		MEAN	0.102		
		STD			
BIG SISTER ISLAND	HERRING GULL	N	1	1	1
		MEAN	0.069	.1134	0.047
		STD			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

CIS-NONACHLOR, LAKE SUPERIOR

			YEAR		
			86	87	88
AGAWA ROCK	HERRING GULL	N	1	1	1
		MEAN	0.067	.0378	.0614
		STD			
GRANITE ISLAND	HERRING GULL	N	1	1	1
		MEAN	0.067	0.058	.0645
		STD			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TRANS-NONACHLOR, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR						
			82	83	84	85	86	87	88
STRACHAN ISLAND	HERRING GULL	N					1		1
		MEAN					0.029		.0911
		STD							
SNAKE ISLAND	HERRING GULL	N	10	11	10	10	10	1	1
		MEAN	0.211	.0282	0.021	0.018	.0262	.0448	.0967
		STD	.0789	.0125	0.011	.0063	.0214		
PIGEON ISLAND	HERRING GULL	N	10						
		MEAN	0.153						
		STD	.0576						
	BLACK-CROWNED NIGHT-HERON	N	12						
		MEAN	.1025						
		STD	.0586						
LITTLE GALLOO ISLAND	HERRING GULL	N	10						
		MEAN	0.551						
		STD	.2779						
	BLACK-CROWNED NIGHT-HERON	N	1						
		MEAN	0.06						
		STD							
SCOTCH BONNET ISLAND	HERRING GULL	N	1						
		MEAN	0.08						
		STD							
GULL ISLAND PRESQU'ILE	HERRING GULL	N	10						
		MEAN	0.068						
		STD	.0308						
LESLIE ST. SPIT	HERRING GULL	N							1
		MEAN							.0678
		STD							
MUGGS ISLAND	HERRING GULL	N	9	11	10	10	10	1	
		MEAN	.0833	.0273	.0125	0.015	.0797	.0495	
		STD	.0458	.0174	.0054	.0053	.0512		
HAMILTON HARBOUR	HERRING GULL	N	1		1		1	1	
		MEAN	0.04		0.02		0.078	.0074	
		STD							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TRANS-NONACHLOR, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR						
			82	83	84	85	86	87	88
HAMILTON HARBOUR	RING-BILLED GULL	N			10				
		MEAN			0.04				
		STD			.0294				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TRANS-NONACHLOR, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR						
			82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N	1	11	10	10	10	1	1
		MEAN	0.04	.0164	0.025	.0105	.0739	.0423	.0565
		STD		.0081	.0108	.0037	0.019		
	BLACK-CROWNED NIGHT-HERON	N	1				1		
		MEAN	0.07				0.258		
		STD							
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1	11	10	10	1	10	1
		MEAN	0.06	.0173	0.019	0.014	0.068	.0539	.0556
		STD		.0127	.0074	0.007		.0237	
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N					1		
		MEAN					0.22		
		STD							
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	1	10	1
		MEAN	0.041	0.012	0.016	.0135	0.09	.0599	.0684
		STD	0.026	.0042	.0052	.0075		.0263	
	BLACK-CROWNED NIGHT-HERON	N	10				1		
		MEAN	0.068				0.069		
		STD	.0494						
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N		1					
		MEAN		0.01					
		STD							
FIGHTING ISLAND	HERRING GULL	N	20	11	10	10	1	10	1
		MEAN	0.043	.0123	0.011	0.008	0.016	0.046	.0895
		STD	.0234	.0065	.0032	.0026		.0145	
	RING-BILLED GULL	N			10				
		MEAN			0.016				
		STD			0.007				
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N					1		
		MEAN					0.18		
		STD							
	FORSTERS TERN	N					1		
		MEAN					0.243		
		STD							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TRANS-NONACHLOR, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR						
			82	83	84	85	86	87	88
ST. CLAIR RIVER	HERRING GULL	N						1	
		MEAN						.0649	
		STD							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TRANS-NONACHLOR, LAKE HURON

			YEAR						
			82	83	84	85	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	11	10	10	1	1	13
		MEAN	0.2	.0089	.0195	.0125	0.095	.0029	.0623
		STD	.0923	.0047	.0285	.0054			.0116
	BLACK-CROWNED NIGHT-HERON	N	1						
		MEAN	0.04						
		STD							
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	11	10	10	1	1	16
		MEAN	0.046	.0155	0.012	0.013	0.023	.1218	.1018
		STD	.0171	.0069	.0042	.0048			.0452
DOUBLE ISLAND	HERRING GULL	N	10	11	10	10	1	1	13
		MEAN	0.066	0.025	0.019	0.014	0.079	.0351	.0646
		STD	.0299	.0163	.0088	.0105			.0171
PUMPKIN POINT	HERRING GULL	N				10	1		
		MEAN				.0145	0.088		
		STD				.0112			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TRANS-NONACHLOR, LAKE MICHIGAN

			YEAR						
			82	83	84	85	86	87	88
GULL ISLAND	HERRING GULL	N	10	11	10	9		1	1
		MEAN	0.117	.0273	0.018	.0122		.0947	.1503
		STD	.0371	.0162	.0103	.0067			
TROUT ISLAND	HERRING GULL	N					1		
		MEAN					0.122		
		STD							
FISH ISLAND	HERRING GULL	N			1				
		MEAN			0.03				
		STD							
GRAVEL ISLAND	HERRING GULL	N			1				
		MEAN			0.05				
		STD							
SPIDER ISLAND	HERRING GULL	N			1				
		MEAN			0.04				
		STD							
BIG SISTER ISLAND	HERRING GULL	N	10	10	10	10	1	1	1
		MEAN	0.034	0.026	0.03	0.029	0.123	.1701	0.074
		STD	.0107	0.007	.0105	.0099			
HAT ISLAND GREEN BAY	HERRING GULL	N			1				
		MEAN			0.03				
		STD							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

TRANS-NONACHLOR, LAKE SUPERIOR

			YEAR						
			82	83	84	85	86	87	88
AGAWA ROCK	HERRING GULL	N	10	11	10	10	1	1	1
		MEAN	0.155	0.033	.0115	0.013	0.097	.0374	.0949
		STD	.0824	.0341	.0047	.0063			
GRANITE ISLAND	HERRING GULL	N	10		10	10	1	1	1
		MEAN	0.086		0.019	0.026	0.132	.0928	0.828
		STD	.0981		0.011	.0084			
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N		1					
		MEAN		0.01					
		STD							
GULL ISLAND	HERRING GULL	N		1					
		MEAN		0.02					
		STD							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLOROSTYRENE, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR	
			87	88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		0.026
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	.0166	.0336
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		.0168
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	0.017	
		STD		
HAMILTON HARBOUR	HERRING GULL	N	1	
		MEAN	.0103	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLOROSTYRENE, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR	
			87	88
NIAGARA RIVER	HERRING GULL	N	1	1
		MEAN	.0103	0.008
		STD		
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	1
		MEAN	.0103	0.008
		STD	0	
MIDDLE ISLAND	HERRING GULL	N	10	1
		MEAN	.0299	.0425
		STD	.0095	
FIGHTING ISLAND	HERRING GULL	N	10	1
		MEAN	.0552	.0766
		STD	.0207	
ST. CLAIR RIVER	HERRING GULL	N	1	
		MEAN	.0931	
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLOROSTYRENE, LAKE HURON

			YEAR	
			87	88
CHANTRY ISLAND	HERRING GULL	N	1	13
		MEAN	.0103	.0157
		STD		.0189
CHANNEL SHELTER ISLAND	HERRING GULL	N	1	16
		MEAN	.0707	.0504
		STD		0.021
DOUBLE ISLAND	HERRING GULL	N	1	13
		MEAN	.0103	.0143
		STD		.0041

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLOROSTYRENE, LAKE MICHIGAN

			YEAR		
			82	87	88
GULL ISLAND	HERRING GULL	N		1	1
		MEAN		.0103	.0075
		STD			
BIG SISTER ISLAND	HERRING GULL	N	1	1	1
		MEAN	1.58	.0086	.0045
		STD			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

OCTACHLOROSTYRENE, LAKE SUPERIOR

			YEAR	
			87	88
AGAWA ROCK	HERRING GULL	N	1	1
		MEAN	.0103	0.008
		STD		
GRANITE ISLAND	HERRING GULL	N	1	1
		MEAN	.0103	.0075
		STD		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR													
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SNAKE ISLAND	HERRING GULL	N							10	10	10	10	10	10	11	10
		MEAN							101.6	55.24	57.98	46.45	76.59	52.31	38.18	45.44
		STD							28.98	18.09	16	20.65	38.35	8.667	14.9	13.49
WEST BROTHERS ISLAND	HERRING GULL	N			16	10	10									
		MEAN			114.4	106.4	140.4									
		STD			82.9	37	40.32									
PIGEON ISLAND	HERRING GULL	N		1									10	10		
		MEAN		151									74.72	55.1		
		STD											24.42	18.7		
	DOUBLE-CRESTED CORMORANT	N											10			
		MEAN											17.84			
		STD											7.367			
	CASPIAN TERN	N											8			
		MEAN											31.64			
		STD											14.05			
	BLACK-CROWNED NIGHT-HERON	N		1										12		
		MEAN		55.1										21.99		
		STD												10.68		
LITTLE GALLOO ISLAND	HERRING GULL	N											10	10		
		MEAN											59.34	44.22		
		STD											20.32	21.21		
	DOUBLE-CRESTED CORMORANT	N											10			
		MEAN											33.08			
		STD											12.93			
	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												17.8		
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N						15		8				1		
		MEAN						139.1		104.2				102		
		STD						89.37		53.33						

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR												
			71	72	73	74	75	76	77	78	79	80	81	82	83	84
SCOTCH BONNET ISLAND	DOUBLE-CRESTED CORMORANT	N		7			1									
		MEAN		18.3			2.1									
		STD		8.11												
GULL ISLAND PRESQU'ILE	HERRING GULL	N						5	4	19		11		10		
		MEAN						121.9	96.55	100.2		52.51		60.46		
		STD						40.41	27.29	55.95		12.27		19.79		
	COMMON TERN	N					4									
		MEAN					25.5									
		STD					7.625									
LESLIE ST. SPIT	HERRING GULL	N								4						
		MEAN								61.87						
		STD								13.32						
TORONTO ISLANDS	COMMON TERN	N			6											
		MEAN			22.85											
		STD			13.11											
MUGGS ISLAND	HERRING GULL	N				9	10		10	4	10	9	10	9	11	10
		MEAN				125.8	81.99		73.17	64.25	65.4	52.71	64.81	59.14	32.7	40.72
		STD				36.12	15.98		18.43	9.533	22.58	25.1	26.9	18.63	13.29	16.93
	COMMON TERN	N		5												
		MEAN		87.84												
		STD		45.58												
	RING-BILLED GULL	N									24					
		MEAN									21.21					
		STD									10					
HAMILTON HARBOUR	HERRING GULL	N											10	1		1
		MEAN											71.46	25.7		35.4
		STD											18.44			
	COMMON TERN	N	25													
		MEAN	96.67													
		STD	33.85													
	RING-BILLED GULL	N														10
		MEAN														15.19
		STD														10.8

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR		
			86	87	88
STRACHAN ISLAND	HERRING GULL	N	1		1
		MEAN	12.4		13.04
		STD			
SNAKE ISLAND	HERRING GULL	N	10	1	1
		MEAN	13.18	7.396	11.18
		STD	4.244		
LESLIE ST. SPIT	HERRING GULL	N			1
		MEAN			9.411
		STD			
MUGGS ISLAND	HERRING GULL	N	10	1	
		MEAN	10.21	6.938	
		STD	2.274		
HAMILTON HARBOUR	HERRING GULL	N	1	1	
		MEAN	10	8.517	
		STD			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR													
			72	73	74	75	77	78	79	80	81	82	83	84	86	87
NIAGARA RIVER	HERRING GULL	N							10		10	1	11	10	10	1
		MEAN							44.14		44.23	38.8	28.12	30.74	11	6.175
		STD							18.24		23.55		17.44	12.38	5.316	
	BLACK-CROWNED NIGHT-HERON	N										1			1	
		MEAN										17.4			14.3	
		STD														
PORT COLBOURNE, CAN. FURNACE	COMMON TERN	N		6												
		MEAN		16.08												
		STD		2.487												
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N			10	10	10	10	10	9	10	1	11	10	1	10
		MEAN			55.1	41.46	50.01	38.31	31.09	32.91	39.79	50.7	30.79	38.79	9.79	7.845
		STD			14.79	10.43	10.41	9.263	4.578	12.74	11.76		18.38	12.93		2.616
	COMMON TERN	N	4	2												
		MEAN	45.6	20.75												
		STD	14.94	7.849												
MOHAWK ISLAND	HERRING GULL	N						10								
		MEAN						29.69								
		STD						6.957								
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N													1	
		MEAN													4.65	
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N							10							
		MEAN							46.32							
		STD							10.3							
MIDDLE ISLAND	HERRING GULL	N			10	10	10	10	10	10	10	10	10	10	1	10
		MEAN			55.04	54.4	69.51	34.38	53.45	47.65	61.56	50.39	30.91	40.41	22.7	15.85
		STD			10.49	10.3	23.73	9.215	11.54	10.62	14.59	20.86	13.44	13.4		4.456
	BLACK-CROWNED NIGHT-HERON	N										10			1	
		MEAN										25.05			7.9	
		STD										10.87				
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N	18						10		10		1			
		MEAN	18.81						35.52		33.8		29.3			
		STD	12.25						18.81		9.674					

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR													
			72	73	74	75	77	78	79	80	81	82	83	84	86	87
MIDDLE SISTER ISLAND	HERRING GULL	N						44								
		MEAN						56.85								
		STD						14.54								
FIGHTING ISLAND	HERRING GULL	N	2					11	45		10	20	11	10	1	10
		MEAN	137					95.53	114.9		101.6	60.89	56.84	72.07	24.9	18.3
		STD	22.63					27.41	37.02		30.61	20.14	15.93	17.81		5.015
	COMMON TERN	N	3						10							
		MEAN	34.17						30.67							
		STD	4.051						5.794							
	RING-BILLED GULL	N							10					10		
		MEAN							19.91					8.797		
		STD							6.639					3.915		
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													4.37	
		STD														
	FORSTERS TERN	N													1	
		MEAN													5.53	
		STD														
ST. CLAIR RIVER	HERRING GULL	N														1
		MEAN														12.68
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			88
NIAGARA RIVER	HERRING GULL	N	1
		MEAN	5.539
		STD	
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1
		MEAN	8.051
		STD	
MIDDLE ISLAND	HERRING GULL	N	1
		MEAN	17.2
		STD	
FIGHTING ISLAND	HERRING GULL	N	1
		MEAN	33.59
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, LAKE HURON

			YEAR												
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
CHANTRY ISLAND	HERRING GULL	N					10	10		10	15	10	10	10	10	11
		MEAN					64.54	30.29		53.12	32.32	27.37	20.71	24.89	33.22	14.05
		STD					16.26	13.11		14.08	13.05	18.44	12.59	8.876	30.02	2.849
	BLACK-CROWNED NIGHT-HERON	N													1	
		MEAN													17.6	
		STD														
KETTLE POINT	COMMON TERN	N			2											
		MEAN			28.35											
		STD			4.172											
MANITOBA REEF	HERRING GULL	N											10			
		MEAN											39.57			
		STD											37.95			
BLACK RIVER	HERRING GULL	N											10			
		MEAN											26.91			
		STD											10.55			
LITTLE CHARITY ISLAND	HERRING GULL	N											10			
		MEAN											40.88			
		STD											12.54			
CHANNEL SHELTER ISLAND	HERRING GULL	N											10	10	10	11
		MEAN											68.85	62.73	66.04	45.24
		STD											21.99	17.9	28.54	13.05
NOTTAWASAGA ISLAND	HERRING GULL	N											10			
		MEAN											14.47			
		STD											6.793			
WALLIS ROCK	DOUBLE-CRESTED CORMORANT	N		2	3	1										
		MEAN		41.75	24.93	17.4										
		STD		11.67	2.714											
SOUTH LIMESTONE ISLAND	HERRING GULL	N							2							
		MEAN							62.95							
		STD							5.303							
	CASPIAN TERN	N			1								10			
		MEAN			31.8								22.67			
		STD											8.093			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, LAKE HURON

			YEAR													
			70	71	72	73	74	75	76	77	78	79	80	81	82	83
BLACKBILL ISLANDS	DOUBLE-CRESTED CORMORANT	N	7	8												
		MEAN	20.54	22.78												
		STD	16.47	10.47												
CASTLE ROCK	HERRING GULL	N											10			
		MEAN											16.4			
		STD											5.904			
BUSTARD ROCK	DOUBLE-CRESTED CORMORANT	N			3											
		MEAN			22.97											
		STD			12.63											
HALF MOON ISLAND	CASPIAN TERN	N											9			
		MEAN											17.37			
		STD											6.282			
GULL ROCK	DOUBLE-CRESTED CORMORANT	N			9			1								
		MEAN			24.8			17.3								
		STD			8.891											
THE COUSINS ISLAND	CASPIAN TERN	N											10			
		MEAN											28.63			
		STD											8.454			
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N		7	2			1								
		MEAN		31.91	25.6			10.1								
		STD		13.09	19.8											
DOUBLE ISLAND	HERRING GULL	N					10	10		10	10	10	10	10	10	11
		MEAN					42.1	35.37		65.94	28.3	22.65	15.59	20.72	24.98	16.46
		STD					12.53	11.27		41.81	8.467	6.646	6.755	6.938	12.51	5.829
TALON ROCK	DOUBLE-CRESTED CORMORANT	N		3	1											
		MEAN		24.8	10.3											
		STD		6.986												
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N				1		2				9				
		MEAN				28.3		9.92				17.75				
		STD						5.629				7.506				
PUMPKIN POINT	HERRING GULL	N											10			
		MEAN											24.1			
		STD											12.82			

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, LAKE HURON

			YEAR			
			84	86	87	88
CHANTRY ISLAND	HERRING GULL	N	10	1	1	13
		MEAN	18.1	5.06	3.692	3.999
		STD	8.299			6.578
CHANNEL SHELTER ISLAND	HERRING GULL	N	10	1	1	16
		MEAN	49.71	16.9	11.33	13.8
		STD	24.13			4.904
DOUBLE ISLAND	HERRING GULL	N	10	1	1	13
		MEAN	15.07	4.42	3.911	3.683
		STD	5.138			.9242
PUMPKIN POINT	HERRING GULL	N		1		
		MEAN		5.35		
		STD				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, LAKE MICHIGAN

			YEAR											
			71	73	76	77	78	79	80	82	83	84	86	87	88
ISLE AUX GALETS	CASPIAN TERN	N							9						
		MEAN							24.67						
		STD							6.236						
HAT ISLAND	HERRING GULL	N				9									
		MEAN				96.48									
		STD				31.24									
	CASPIAN TERN	N							9						
		MEAN							26.51						
		STD							8.818						
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10		1	1
		MEAN					74.91	84.03	51.49	60.54	28.35	24.72		5.891	7.462
		STD					31.83	32.93	20.33	28.95	17.08	6.301			
BELLOWS ISLAND	HERRING GULL	N					10								
		MEAN					83.3								
		STD					36.38								
TROUT ISLAND	HERRING GULL	N											1		
		MEAN											9.72		
		STD													
FISH ISLAND	HERRING GULL	N										1			
		MEAN										32.1			
		STD													
GRAVEL ISLAND	HERRING GULL	N										1			
		MEAN										34.9			
		STD													
SPIDER ISLAND	HERRING GULL	N										1			
		MEAN										31.2			
		STD													
GRAVELLY ISLAND	CASPIAN TERN	N							10						
		MEAN							34.3						
		STD							8.711						
LITTLE SISTER ISLAND	HERRING GULL	N				10									
		MEAN				89.99									
		STD				27.07									

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, LAKE MICHIGAN

			YEAR											
			71	73	76	77	78	79	80	82	83	84	86	87	88
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	1	1	1
		MEAN	134.1	155.8	110.1		70.49	69.81	50.79	57.57	24.21	29.4	9.18	15.05	5.637
		STD	64.42	51.28	26.4		26.92	35.91	10.38	16.63	8.295	9.51			
HAT ISLAND GREEN BAY	HERRING GULL	N										1			
		MEAN										25.5			
		STD													

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, LAKE SUPERIOR

			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	86	87
MAMMAINSE HARBOR	HERRING GULL	N		10	10		10	8								
		MEAN		37.32	54.29		46.52	31.1								
		STD		7.441	29.28		15.46	13.05								
AGAWA ROCK	HERRING GULL	N						10	10	10	10	10	11	10	1	1
		MEAN						31.07	50.45	20.05	32.96	26.61	18.45	13.49	5	4.737
		STD						18.83	27.61	9.689	16.19	7.213	17.03	4.419		
GRANITE ISLAND	HERRING GULL	N	2	9		10		10	10	10	10	10		10	1	1
		MEAN	49.1	56.23		14.94		38.25	50.21	24.14	27.83	33.52		15.32	4.93	5.035
		STD	9.899	13.22		3.548		9.754	14.46	7.794	4.966	19		4.342		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N											1			
		MEAN											10			
		STD														
SILVER ISLET	HERRING GULL	N	2		10		10									
		MEAN	52.35		63.52		44.35									
		STD	16.62		26.27		18.81									
GULL ISLAND	HERRING GULL	N											1			
		MEAN											29.4			
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1260, LAKE SUPERIOR

			YEAR
			88
AGAWA ROCK	HERRING GULL	N	1
		MEAN	3.872
		STD	
GRANITE ISLAND	HERRING GULL	N	1
		MEAN	6.042
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, ST. LAWRENCE RIVER/LAKE ONTARIO

(for conversion to total PCB congener concentration, see page 35)			YEAR													
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
STRACHAN ISLAND	HERRING GULL	N														1
		MEAN														28.9
		STD														
SNAKE ISLAND	HERRING GULL	N					10	10	10	10	10	10	11	10	10	10
		MEAN					118.4	70.68	62.9	53.49	85.62	61.48	46.18	53.34	34.59	29.45
		STD					33.06	20.46	17.78	23.62	40.65	12.1	18.11	15.67	14.9	9.249
WEST BROTHERS ISLAND	HERRING GULL	N	16	10	10											
		MEAN	132.8	140.5	179.6											
		STD	96.6	48.84	51.15											
PIGEON ISLAND	HERRING GULL	N									10	10				
		MEAN									83.5	61.56				
		STD									27.07	21.37				
	DOUBLE-CRESTED CORMORANT	N									10					
		MEAN									20.65					
		STD									8.109					
	CASPIAN TERN	N									8					
		MEAN									39.28					
		STD									17.77					
	BLACK-CROWNED NIGHT-HERON	N										12				
		MEAN										24.39				
		STD										11.77				
LITTLE GALLOO ISLAND	HERRING GULL	N									10	10				
		MEAN									67.13	53.88				
		STD									22.76	24.86				
	DOUBLE-CRESTED CORMORANT	N									10					
		MEAN									37.87					
		STD									14.66					
	BLACK-CROWNED NIGHT-HERON	N										1				
		MEAN										18.9				
		STD														
SCOTCH BONNET ISLAND	HERRING GULL	N				15		8				1				
		MEAN				165.1		122.6				117				
		STD				104.7		63.22								

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, ST. LAWRENCE RIVER/LAKE ONTARIO

(for conversion to total PCB congener concentration, see page 35)			YEAR												
			73	74	75	76	77	78	79	80	81	82	83	84	85	86
SCOTCH BONNET ISLAND	DOUBLE-CRESTED CORMORANT	N			1											
		MEAN			2.4											
		STD														
GULL ISLAND PRESQU'ILE	HERRING GULL	N				5	4	19		11		10				
		MEAN				148.5	116.1	121.5		61.86		70.8				
		STD				51.43	35.53	70.92		14.45		22.7				
	COMMON TERN	N			4											
		MEAN			30.38											
		STD			7.02											
LESLIE ST. SPIT	HERRING GULL	N						4								
		MEAN						72.27								
		STD						21.44								
MUGGS ISLAND	HERRING GULL	N		9	10		10	4	10	9	10	9	11	10	10	10
		MEAN		165.6	106.6		86.62	76.98	76.29	59.69	72.17	64.47	39.01	48.87	36.57	25.04
		STD		47.68	20.79		19.51	14.14	29.74	28.83	29.98	20.47	15.27	20.13	8.623	5.464
	RING-BILLED GULL	N							24							
		MEAN							27.25							
		STD							11.8							
HAMILTON HARBOUR	HERRING GULL	N									10	1		1		1
		MEAN									79.33	31.7		43.6		24.8
		STD									20.94					
	RING-BILLED GULL	N												10		
		MEAN												18.78		
		STD												13.36		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, ST. LAWRENCE RIVER/LAKE ONTARIO

(for conversion to total PCB congener concentration, see page 35)			YEAR 87	YEAR 88
STRACHAN ISLAND	HERRING GULL	N		1
		MEAN		30.73
		STD		
SNAKE ISLAND	HERRING GULL	N	1	1
		MEAN	17.34	26.67
		STD		
LESLIE ST. SPIT	HERRING GULL	N		1
		MEAN		20.39
		STD		
MUGGS ISLAND	HERRING GULL	N	1	
		MEAN	15.62	
		STD		
HAMILTON HARBOUR	HERRING GULL	N	1	
		MEAN	17.96	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

(for conversion to total PCB congener concentration, see page 35)			YEAR													
			74	75	77	78	79	80	81	82	83	84	85	86	87	88
NIAGARA RIVER	HERRING GULL	N					10		10	1	11	10	10	10	1	1
		MEAN					50.47		50.35	45.5	34.06	37.27	29.13	22.55	12.83	12.45
		STD					22.51		25.1		20.37	14.52	11.02	10.62		
	BLACK-CROWNED NIGHT-HERON	N								1				1		
		MEAN								18.9				33.4		
		STD														
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	10	10	10	10	10	9	10	1	11	10	10	1	10	1
		MEAN	72.56	53.91	59.27	46.43	37.59	37.59	44.36	59.7	36.76	45.13	29.66	23.7	15.63	17.59
		STD	19.52	13.52	12.73	10.81	6.216	15.75	12.88		21.37	14.66	12.81		5.616	
MOHAWK ISLAND	HERRING GULL	N				10										
		MEAN				34.74										
		STD				7.908										
LONG POINT PROVINCIAL PARK	FORSTERS TERN	N												1		
		MEAN												11.4		
		STD														
SANDUSKY TURNING POINT	HERRING GULL	N					10									
		MEAN					51.54									
		STD					11.45									
MIDDLE ISLAND	HERRING GULL	N	10	10	10	10	10	10	10	10	10	10	10	1	10	1
		MEAN	72.36	70.69	78.13	42.43	59.28	54.29	68.61	58.81	37.92	47.26	47.15	43	27.88	37.4
		STD	13.79	13.37	23.96	11.31	12.77	11.56	15.74	23.88	15.41	15.85	10.46		6.278	
	BLACK-CROWNED NIGHT-HERON	N								10				1		
		MEAN								28.71				13.2		
		STD								12.64						
BIG CHICKEN ISLAND	DOUBLE-CRESTED CORMORANT	N					10		10		1					
		MEAN					45.49		38.66		36.6					
		STD					24.12		10.78							
MIDDLE SISTER ISLAND	HERRING GULL	N				44										
		MEAN				67.19										
		STD				15.74										
FIGHTING ISLAND	HERRING GULL	N				11	45		10	20	11	10	10	1	10	1
		MEAN				115.1	133.7		111	69.86	65.36	84.79	48.17	41.3	33.77	60.56
		STD				33.45	43.55		33.36	23.24	18	21.19	17.06		9.012	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

(for conversion to total PCB congener concentration, see page 35)			YEAR													
			74	75	77	78	79	80	81	82	83	84	85	86	87	88
FIGHTING ISLAND	COMMON TERN	N					10									
		MEAN					38.56									
		STD					7.748									
	RING-BILLED GULL	N					10					10				
		MEAN					23.24					10.63				
		STD					8.067					4.661				
WALPOLE ISLAND	BLACK-CROWNED NIGHT-HERON	N												1		
		MEAN												8.7		
		STD														
	FORSTERS TERN	N												1		
		MEAN												12.8		
		STD														
ST. CLAIR RIVER	HERRING GULL	N													1	
		MEAN													26.24	
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, LAKE HURON

(for conversion to total PCB congener concentration, see page 35)			YEAR												
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
CHANTRY ISLAND	HERRING GULL	N	10	10		10	15	10	10	10	10	11	10	10	1	1
		MEAN	85.67	39.33		63.66	36.62	31.08	23.41	27.7	38.06	16.86	21.54	14.25	12.3	7.71
		STD	21.68	17.1		16.51	14.35	22.94	14.54	9.852	33.71	3.449	9.939	9.55		
	BLACK-CROWNED NIGHT-HERON	N									1					
		MEAN									19.2					
		STD														
MANITOBA REEF	HERRING GULL	N							10							
		MEAN							43.12							
		STD							41.69							
BLACK RIVER	HERRING GULL	N							10							
		MEAN							28.68							
		STD							11.07							
LITTLE CHARITY ISLAND	HERRING GULL	N							10							
		MEAN							41.93							
		STD							12.94							
CHANNEL SHELTER ISLAND	HERRING GULL	N							10	10	10	11	10	10	1	1
		MEAN							69.55	65.28	71.57	48.58	54.84	48.4	46	31.26
		STD							23.07	19.06	31.44	13.54	27.03	15.3		
NOTTAWASAGA ISLAND	HERRING GULL	N							10							
		MEAN							16.19							
		STD							7.432							
SOUTH LIMESTONE ISLAND	HERRING GULL	N			2											
		MEAN			74.9											
		STD			6.364											
	CASPIAN TERN	N							10							
		MEAN							26.04							
		STD							9.668							
CASTLE ROCK	HERRING GULL	N							10							
		MEAN							17.59							
		STD							6.448							
HALF MOON ISLAND	CASPIAN TERN	N							9							
		MEAN							18.49							
		STD							6.878							

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, LAKE HURON

(for conversion to total PCB congener concentration, see page 35)			YEAR												
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
GULL ROCK	DOUBLE-CRESTED CORMORANT	N		1												
		MEAN		22.3												
		STD														
THE COUSINS ISLAND	CASPIAN TERN	N							10							
		MEAN							30.89							
		STD							9.277							
DOUCET ROCK	DOUBLE-CRESTED CORMORANT	N		1												
		MEAN		11.9												
		STD														
DOUBLE ISLAND	HERRING GULL	N	10	10		10	10	10	10	10	10	11	10	10	1	1
		MEAN	56.34	46.01		76.9	32.62	26.24	17.41	23.08	30.51	19.69	18.36	19.56	11.7	8.951
		STD	16.76	14.65		48.32	9.518	7.358	7.747	7.633	15.22	6.56	6.37	5.771		
AFRICA ROCK	DOUBLE-CRESTED CORMORANT	N		2				9								
		MEAN		11.21				20.5								
		STD		6.343				8.877								
PUMPKIN POINT	HERRING GULL	N							10					10	1	
		MEAN							26.39					21.71	14.3	
		STD							13.93					10.42		

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, LAKE HURON

(for conversion to total PCB congener concentration, see page 35)			YEAR 88
CHANTRY ISLAND	HERRING GULL	N	13
		MEAN	8.007
		STD	10.81
CHANNEL SHELTER ISLAND	HERRING GULL	N	16
		MEAN	37.87
		STD	13.25
DOUBLE ISLAND	HERRING GULL	N	13
		MEAN	9.272
		STD	2.326

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, LAKE MICHIGAN

(for conversion to total PCB congener concentration, see page 35)			YEAR													
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
ISLE AUX GALETS	CASPIAN TERN	N							9							
		MEAN							25.9							
		STD							6.539							
HAT ISLAND	HERRING GULL	N				9										
		MEAN				111.6										
		STD				35.72										
	CASPIAN TERN	N							9							
		MEAN							27.77							
		STD							8.915							
GULL ISLAND	HERRING GULL	N					10	10	10	10	11	10	9		1	1
		MEAN					91.49	92.93	58.7	63.93	32.65	28.93	26.51		16.58	21.66
		STD					36.86	35.87	23.07	29.78	19.2	7.435	7.36			
BELLOWS ISLAND	HERRING GULL	N					10									
		MEAN					101.1									
		STD					46.06									
TROUT ISLAND	HERRING GULL	N												1		
		MEAN												27.5		
		STD														
FISH ISLAND	HERRING GULL	N										1				
		MEAN										36.2				
		STD														
GRAVEL ISLAND	HERRING GULL	N										1				
		MEAN										44.1				
		STD														
SPIDER ISLAND	HERRING GULL	N										1				
		MEAN										37.4				
		STD														
GRAVELLY ISLAND	CASPIAN TERN	N							10							
		MEAN							36.16							
		STD							9.179							
LITTLE SISTER ISLAND	HERRING GULL	N				10										
		MEAN				104.4										
		STD				32.41										

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, LAKE MICHIGAN

(for conversion to total PCB congener concentration, see page 35)			YEAR													
			71	73	76	77	78	79	80	82	83	84	85	86	87	88
BIG SISTER ISLAND	HERRING GULL	N	10	10	10		10	10	10	10	10	10	10	1	1	1
		MEAN	141.7	165.3	118.4		89.98	73.49	56.95	66.89	27.66	34	36.82	27	44.52	16.61
		STD	64.04	50.23	28.29		36.78	36.87	12.06	23.38	9.481	11.15	37.21			
HAT ISLAND GREEN BAY	HERRING GULL	N										1				
		MEAN										35.3				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, LAKE SUPERIOR

(for conversion to total PCB congener concentration, see page 35)			YEAR													
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
CHENE ISLAND	HERRING GULL	N										1				
		MEAN										14.5				
		STD														
MAMMAINSE HARBOR	HERRING GULL	N	10	10		10	8									
		MEAN	50.07	70.45		55.53	36.85									
		STD	9.984	37.47		20.22	15.78									
AGAWA ROCK	HERRING GULL	N					10	10	10	10	10	12	10	10	1	1
		MEAN					37.88	58.43	23.68	36.35	29.78	21.07	16.01	12.26	13.9	11.29
		STD					22.85	33.07	12.17	17.76	8.374	18.71	5.411	2.569		
LEADMAN ISLANDS	HERRING GULL	N										1				
		MEAN										20				
		STD														
HURON ISLAND	HERRING GULL	N										1				
		MEAN										15.7				
		STD														
LAKE LINDEN	HERRING GULL	N										1				
		MEAN										15.1				
		STD														
GRANITE ISLAND	HERRING GULL	N	9		10		10	10	10	10	10		10	10	1	1
		MEAN	75.43		23.28		45.35	59.05	27.48	31.33	39.7		17.81	19.51	14.3	13.41
		STD	17.78		5.824		10.98	16.92	9.301	5.61	24.5		5.043	8.708		
GRAVEL ISLAND	DOUBLE-CRESTED CORMORANT	N										1				
		MEAN										12.9				
		STD														
PAPOOSE ISLAND	HERRING GULL	N										1				
		MEAN										15.7				
		STD														
SILVER ISLET	HERRING GULL	N		10		10										
		MEAN		82.02		54.91										
		STD		33.34		22.2										
GULL ISLAND	HERRING GULL	N										2				
		MEAN										32.65				
		STD										6.01				

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, LAKE SUPERIOR

(for conversion to total PCB congener concentration, see page 35)			YEAR											
			74	75	76	77	78	79	80	81	82	83	84	85	86	87
KNIFE ISLAND	HERRING GULL	N										1				
		MEAN										16.7				
		STD														

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

PCB 1254:1260, LAKE SUPERIOR

(for conversion to total PCB congener concentration, see page 35)			YEAR 88
AGAWA ROCK	HERRING GULL	N	1
		MEAN	11.32
		STD	
GRANITE ISLAND	HERRING GULL	N	1
		MEAN	15.54
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

SELENIUM, ST. LAWRENCE RIVER/LAKE ONTARIO

			YEAR
			77
SNAKE ISLAND	HERRING GULL	N	10
		MEAN	0.67
		STD	.2111
MUGGS ISLAND	HERRING GULL	N	10
		MEAN	0.49
		STD	.2025

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

SELENIUM, NIAGARA RIVER/LAKE ERIE/DETROIT RIVER/LAKE ST. CLAIR

			YEAR
			77
PORT COLBORNE LIGHTHOUSE	HERRING GULL	N	1
		MEAN	1.3
		STD	
MIDDLE ISLAND	HERRING GULL	N	1
		MEAN	1
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

SELENIUM, LAKE HURON

			YEAR
			77
CHANTRY ISLAND	HERRING GULL	N	1
		MEAN	0.2
		STD	
DOUBLE ISLAND	HERRING GULL	N	1
		MEAN	0.2
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

TABLE 11. Contaminant data, summarized by Compound Analyzed.*

SELENIUM, LAKE MICHIGAN

			YEAR
			77
HAT ISLAND	HERRING GULL	N	1
		MEAN	0.5
		STD	
LITTLE SISTER ISLAND	HERRING GULL	N	1
		MEAN	1.3
		STD	

*All units measured on wet weight basis. Dioxins and furans measured in pg/g; all others measured in ug/g.

REFERENCES

Cadman, M.J., Eagles, P.F.J., Helleiner, F.M. 1987. Atlas of the Breeding Birds of Ontario. University of Waterloo Press. 617pp.

Gilbertson, M. 1975. A Great Lakes tragedy. Nat. Can. 4(1): 22-25.

Gilman, A.P., Fox, G.A., Peakall, D.B., Teeple, S.M., Carrol, T.R. 1977. Reproductive parameters and egg contaminant levels in Great Lakes Herring Gulls. J.Wildl. Manage. 41:458-468.

Norstrom, R.J., Simon, M. and Mulvihill,M.J. 1986. A gel-permeation/column chromatography method for the determination of CDDs in animal tissue. Intern. J. Environ. Anal. Chem. 23: 267-287.

Ontario Research Foundation, 1977. Trace metal analysis of biological tissues. Rep. No. 77-1. 5pp.

Ontario Research Foundation, 1979. Trace metal analysis of muskrat tissues. Rep. No. 79-9. 4pp.

Peakall D.B., Norstrom R.J., Rahimtula A.D., Butler R.D., 1986. Characterization of mixed function oxidase systems of the nestling Herring Gull and its implications of bioeffects monitoring. Environ. Toxicol. Chem. 5: 379-385.

Postupalsky, S. 1978. Toxic chemicals and cormorant populations in the Great Lakes. Can. Wild. Serv., Wildl. Toxicol. Div. Ms. Rep. No.20. Ottawa. 70 pp.

Price, I.M. and Weseloh, D.V. 1986. Increased numbers and productivity of Double-crested Cormorants, Phalacrocorax auritus, on Lake Ontario. Can. Field-Nat. 100(4): 474-482.

Reynolds L.M. and Cooper T. 1975. Analysis of organochlorine residues in fish. Water Quality Parameters, Am. Soc. of Test. Mater. Spec. Tech. Publ. 573. 196-205.

Turle R., Norstrom R.J., and Won H.T., 1988. Quality assurance as applied to long-term monitoring of chemical residues and specimen banking In: Progress in environmental specimen banking eds. S.A.Wise, R.Zeisler and G.M.Goldstein, Natl. Bur. Stand. (U.S.), Spec.Publ.740, pp.171-183 (Apr. 1988).

Turle R., Norstrom R.J. and Collins, B. 1991. Comparison of PCB quantitation methods: Re-analysis of archived specimens of Herring Gulls from the Great Lakes. Chemosphere 22 (1-2): 201-213.

Vermeer, K. and Peakall, D.B. 1977a. Environmental contaminants and the future of fish-eating birds in Canada in: Canada's threatened species and habitats ed. Mosquin, T. and Sudal, C. Can. Nat. Fed. Spec. Publ. 6: 88-95.

Vermeer, K. and Peakall, D.B. 1977b. Toxic chemicals in Canadian fish-eating birds. Mar. Pollut. Bull. 8:205-210.

Weseloh, D.V., Mineau, P., and Hallett, D.J.1979. Organochlorine contaminants and trends in reproduction in Great Lakes Herring Gulls, 1974-1978. Trans. 44th North Amer. Nat. Resour. Conf., Wildl. Manage. Inst., Washington D.C., 543-557.

Weseloh, D.V., Mineau, P., Teeple, S.M., Bolkpoel, H., Ratcliff, B. 1986. Colonial waterbirds nesting in Canadian Lake Huron in 1980. Can. Wildl. Serv. Progr. Notes 165. 28pp.